



# Operational Excellence

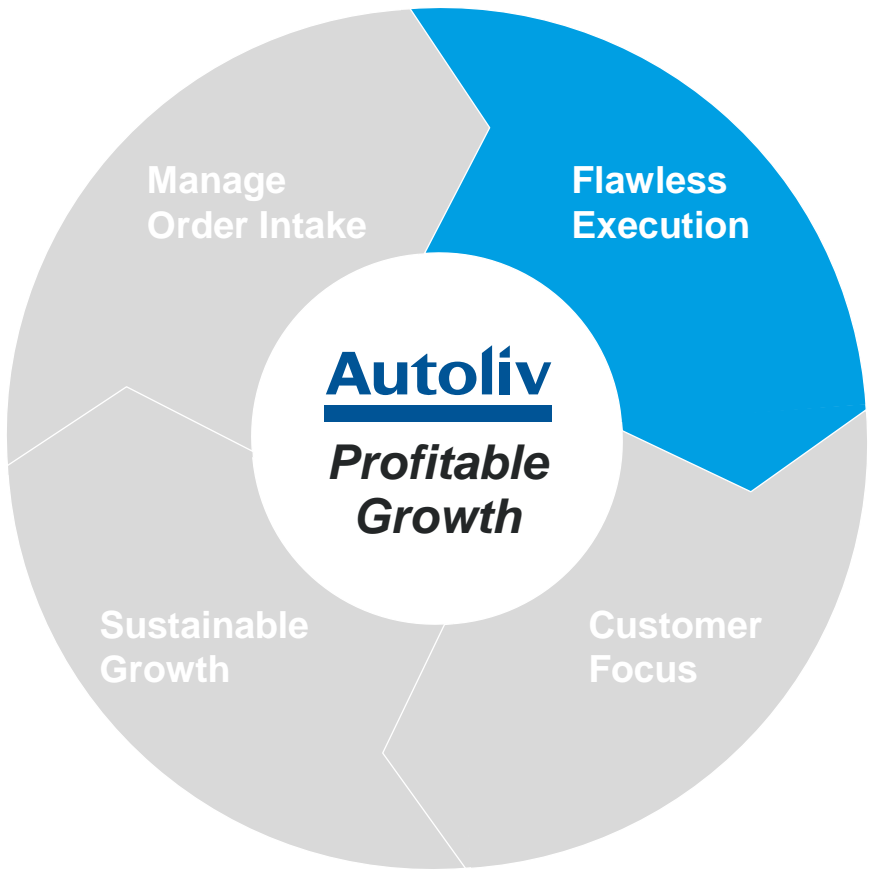
Mikael Bratt

Incoming President & CEO

# Safe Harbor Statement

This presentation contains statements that are not historical facts but rather forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include those that address activities, events or developments that Autoliv, Inc. or its management believes or anticipates may occur in the future. All forward-looking statements, including without limitation, statements related to the completion and timing of the proposed spin-off; the future performance of the Passive Safety business on a stand-alone basis if the spin-off is completed; the expected strategic, operational and competitive benefits of the proposed spin-off and the effect of the separation on the Company and its stakeholders; statements related to the future performance of the Company or of any such businesses if any such transaction is completed; other targets regarding the Company's performance as a single entity; management's examination of historical operating trends and data, as well as estimates of future sales, operating margin, market trends, cash flow or other future operating performance or financial results, are based upon our current expectations, various assumptions and/or data available from third parties. Our expectations and assumptions are expressed in good faith and we believe there is a reasonable basis for them. However, there can be no assurance that such forward-looking statements will materialize or prove to be correct as forward-looking statements are inherently subject to known and unknown risks, uncertainties and other factors which may cause actual future results, performance or achievements to differ materially from the future results, performance or achievements expressed in or implied by such forward-looking statements. In some cases, you can identify these statements by forward-looking words such as "estimates", "expects", "anticipates", "projects", "plans", "intends", "believes", "may", "likely", "might", "would", "should", "could", or the negative of these terms and other comparable terminology, although not all forward-looking statements contain such words. Because these forward-looking statements involve risks and uncertainties, the outcome could differ materially from those set out in the forward-looking statements for a variety of reasons, including without limitation, higher than anticipated tax and other costs associated with the spin-off; disputes or operational difficulties resulting from the spin-off; expected benefits of the spin-off taking longer than anticipated to realize; changes in light vehicle production; fluctuation in vehicle production schedules for which the Company is a supplier, changes in general industry and market conditions or regional growth or decline; changes in and the successful execution of our capacity alignment, restructuring and cost reduction initiatives and the market reaction thereto; loss of business from increased competition; higher raw material, fuel and energy costs; changes in consumer and customer preferences for end products; customer losses; changes in regulatory conditions; customer bankruptcies, consolidations, or restructurings; divestiture of customer brands; unfavorable fluctuations in currencies or interest rates among the various jurisdictions in which we operate; component shortages; market acceptance of our new products; costs or difficulties related to the integration of any new or acquired businesses and technologies; continued uncertainty in pricing negotiations with customers; successful integration of acquisitions and operations of joint ventures; successful implementation of strategic partnerships and collaborations; our ability to be awarded new business; product liability, warranty and recall claims and investigations and other litigation and customer reactions thereto; higher expenses for our pension and other postretirement benefits, including higher funding requirements for our pension plans; work stoppages or other labor issues; possible adverse results of pending or future litigation or infringement claims; our ability to protect our intellectual property rights; negative impacts of antitrust investigations or other governmental investigations and associated litigation relating to the conduct of our business; tax assessments by governmental authorities and changes in our effective tax rate; dependence on key personnel; legislative or regulatory changes impacting or limiting our business; political conditions; dependence on and relationships with customers and suppliers; and other risks and uncertainties identified under the headings "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Reports and Quarterly Reports on Forms 10-K and 10-Q and any amendments thereto. For any forward-looking statements contained in this or any other document, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995, and we assume no obligation to update publicly or revise any forward-looking statements in light of new information or future events, except as required by law.

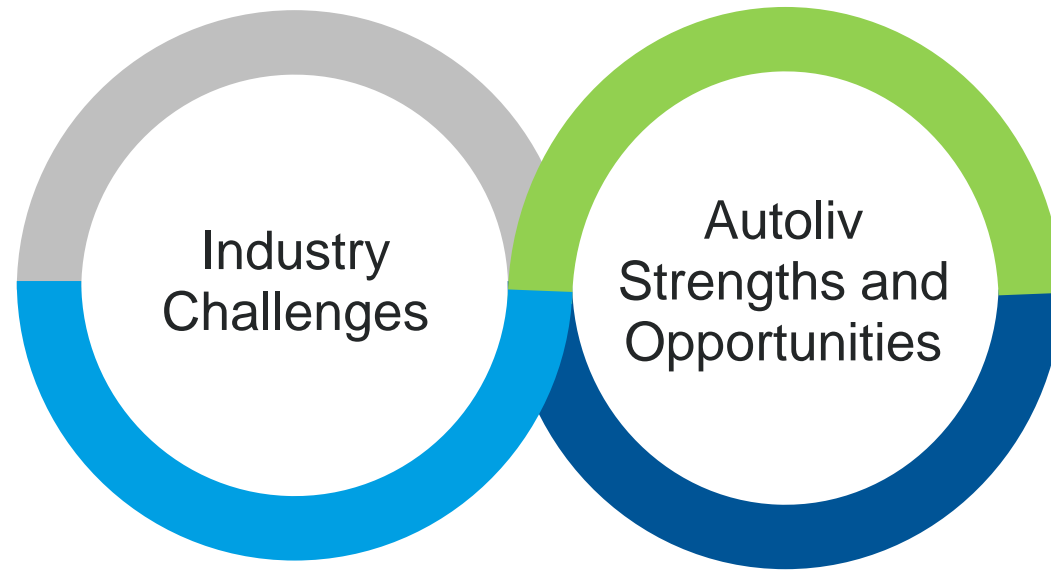
# Operational Excellence is in Our DNA



# Navigating in a Competitive Landscape

## Well-Positioned to Address Industry Challenges

- Technology advancements with growing OEM investment needs
- A dynamic competitive landscape with continued price pressure
- Cyclicity of automotive industry
- Vehicle recall risks



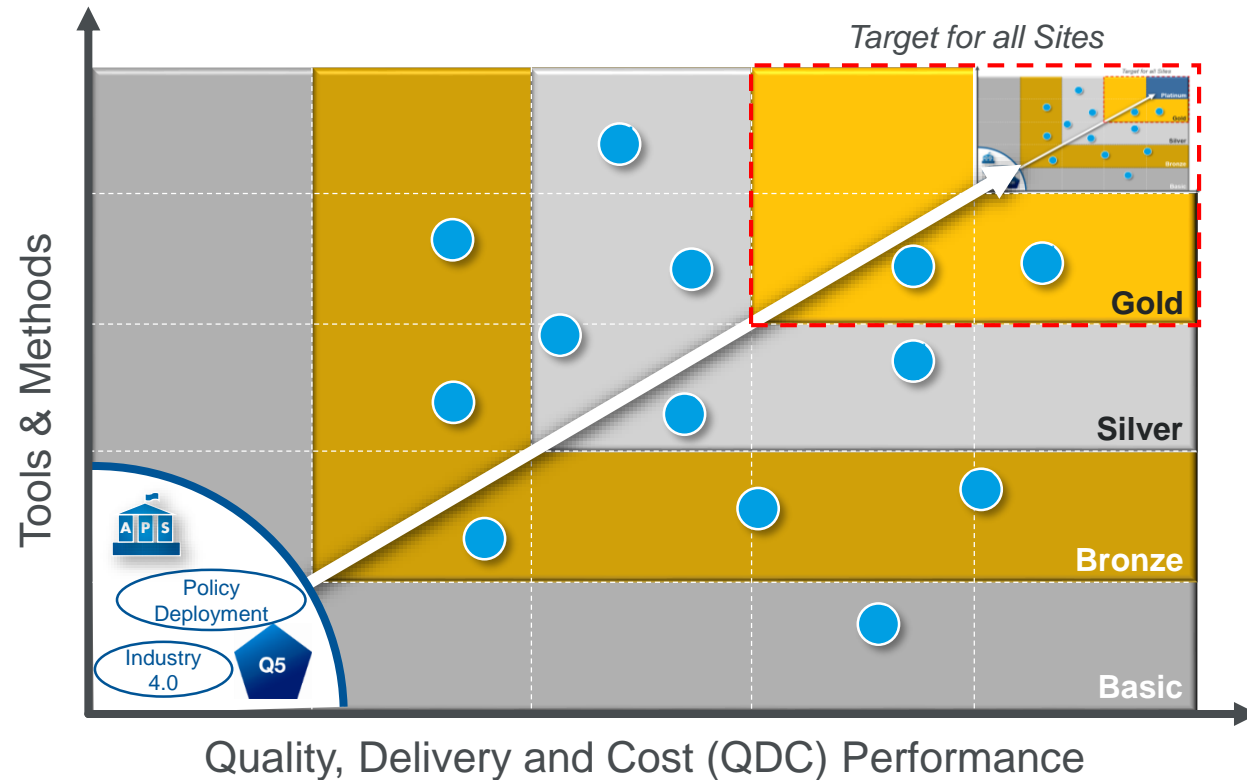
- Innovation leadership and system know-how
- Leading production system, superior scale and strong business momentum
- Diversified sales streams, best cost country based workforce and strong cash conversion
- Reliability and superior quality

# We are Never Satisfied

Relentless Focus on Operational Excellence for Highest Reliability and Increasing Profitability

## How to Achieve Sustainable Operational Excellence

Illustrative Example



## Tools and Methods



**Autoliv Production System**



**Zero Defects**



**One Product One Process**



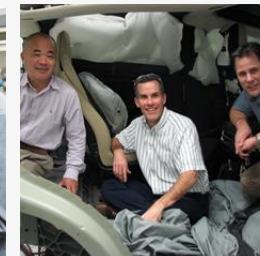
**Innovation**

# Relentless Focus on Quality

Q5 is Our Journey Towards Zero Defects

It Starts With Me

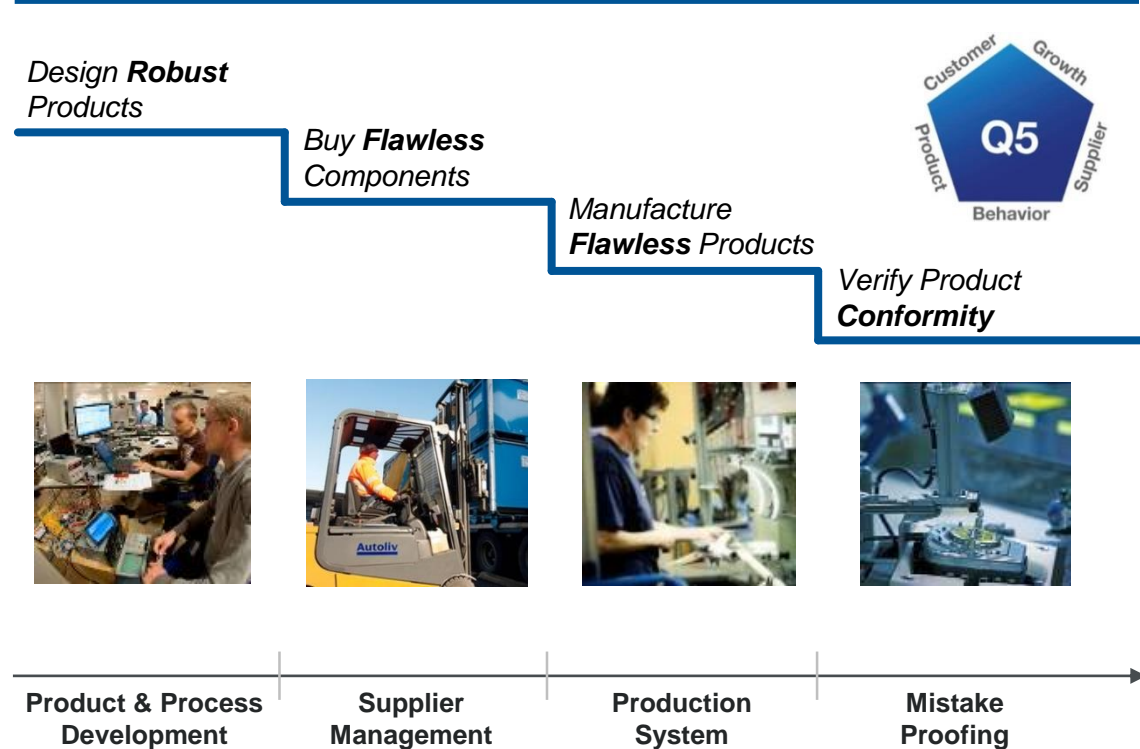
I THINK Q5  
I SPEAK Q5  
I FEEL Q5  
I DO Q5



# Highest Reliability and Industry-Leading Quality Standards

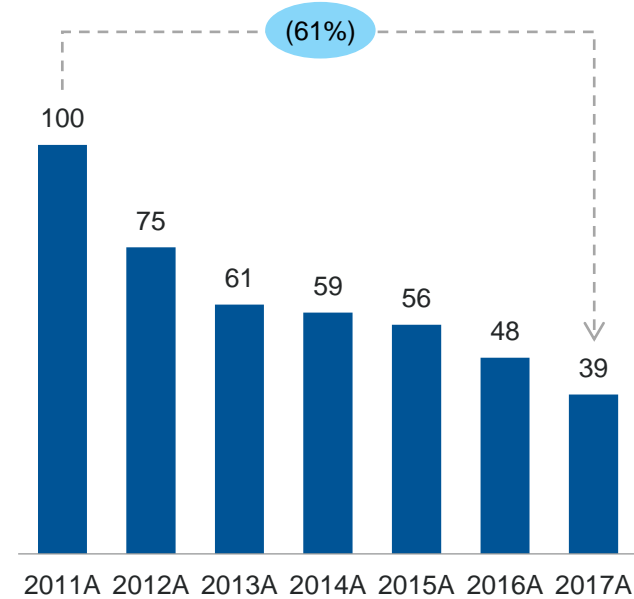
“Zero Defects by Flawless Execution”

## Relentless Focus on Quality Through Q5 Program...



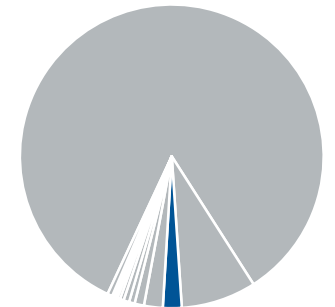
## ...Evidenced by Fewer Issues...

Non-Conforming Events<sup>(1)</sup>, Rebased to 2011A



## ...& Minimal Recalls

Share of Global Recalls<sup>(2)</sup>



**Autoliv**  
2%  
vs. 38%  
Market Share<sup>(3)</sup>

(1) Failure to meet intended state and/or specification

(2) Scope: Recalls related to Passive Safety in Japan, Canada, US, China, South Korea, Australian, EU, UK, DE; 2010-01-01 to 2017-12-31

(3) Estimated 2017A market shares

# Preventing Quality Issues by Proactive Quality Culture

Case Study – “Feel the Weight – Save the Life”

## Example Q5 Behavior – JIDOKA “Automation with Human Touch”

### ALV September CMD Example

- Viktor Tsysar noticed difference in hardness and gloss of airbag component
- Supplier used incorrect plastic material



**Q5 JİDOKA BENİM**

- ✓ Naime Şen detected 31g weight difference by hand
  - Thickness of supplier’s rail was off by 0.2 mm
- ✓ Immediately stopped assembly line
  - All rails checked by scale analysis

Potential recall prevented



# Management & Workforce with First-Class Execution Skills

Examples of Successful Executions Driving Profitable Growth

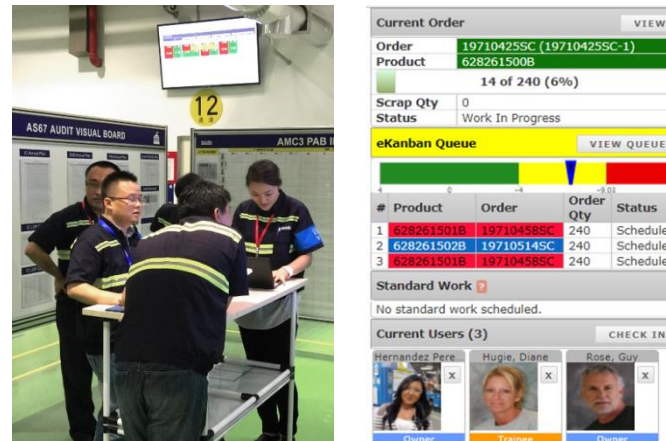
## Zero Defect



### Zero Defect (“ZD”) initiative

- ✓ 17% of all lines have achieved ZD
- ✓ 60% of lines in initial plants where the initiative started have achieved ZD
- ✓ Significantly reduced cost for waste & scrap

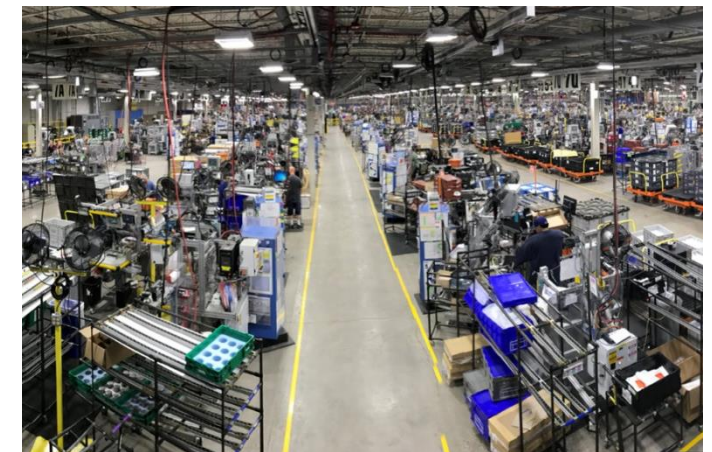
## Efficiency Improvement in Operations



### Implemented L2L as MES System<sup>(1)</sup>

- ✓ Real-time monitoring of performance data
- ✓ Notification & escalation
- ✓ Standard reason codes
- ✓ Operator certification
- ✓ Increased operation availability by 5% in 2017

## Target Conditions



### Defined target conditions

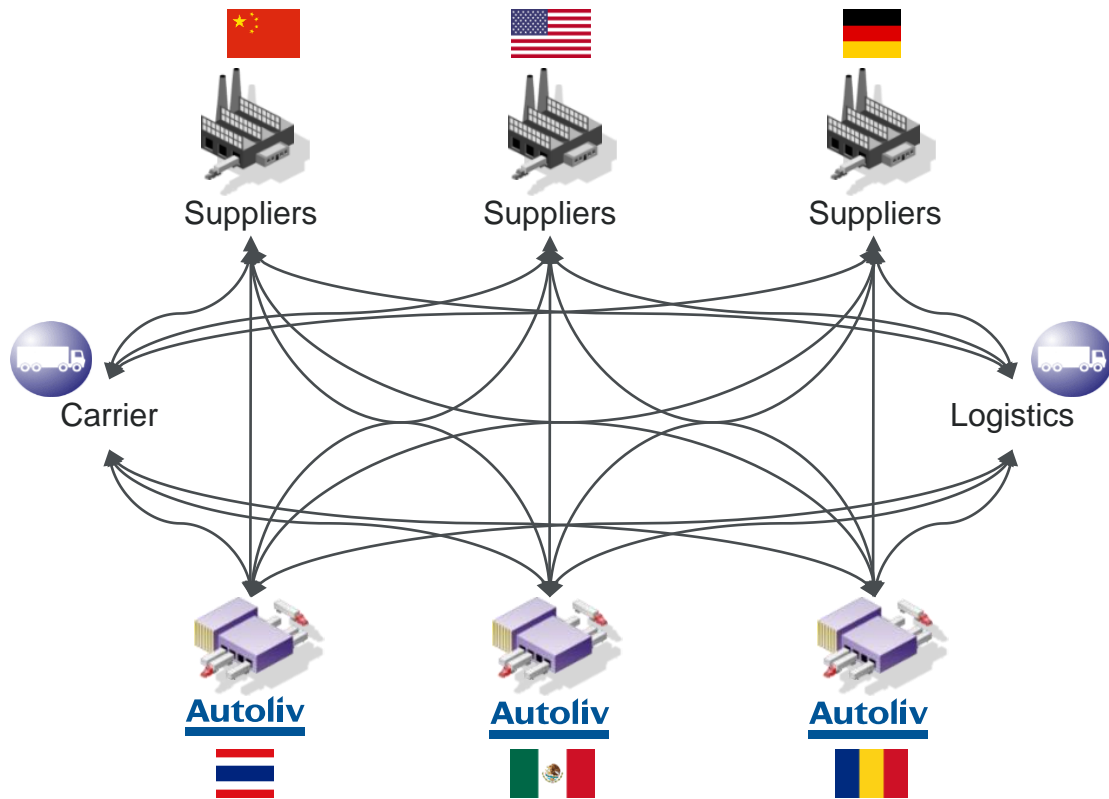
- ✓ Covering process, plant layout and design
- ✓ Actively identify new area for improvement
- ✓ Optimization path customized for individual practice

(1) Leading2Lean; Manufacturing Execution System

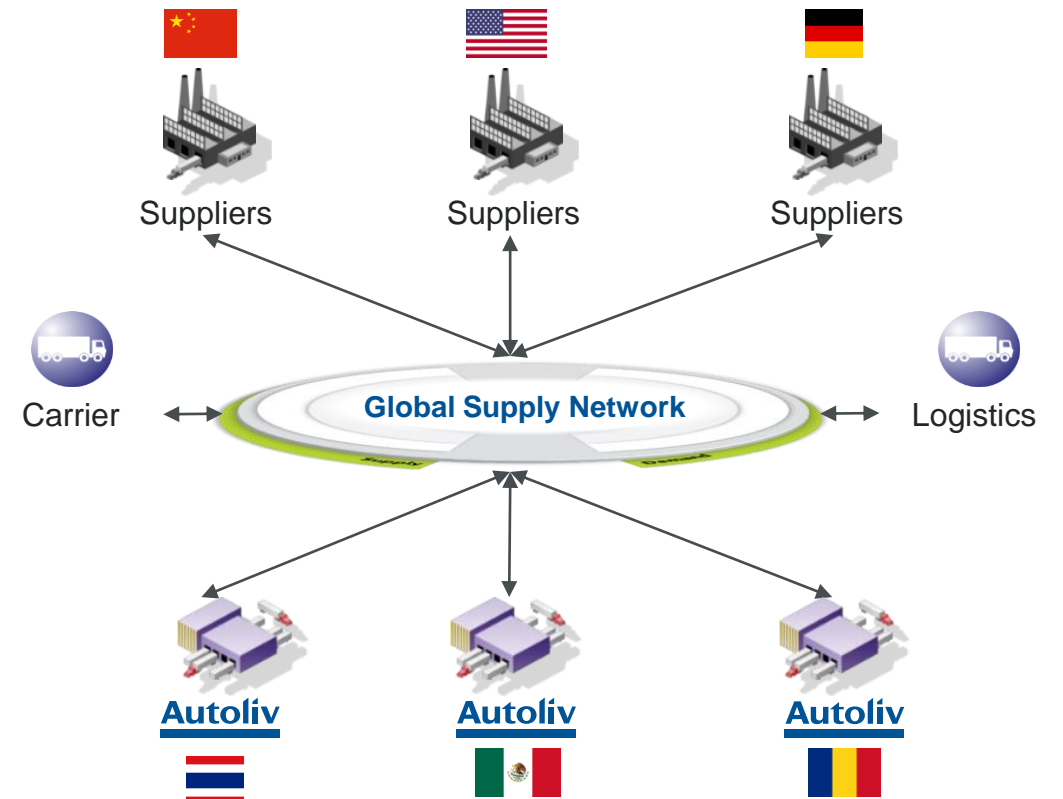
# New Technology Enables Simplified Supply Network

Complete Visibility of All Logistics Requirements and Ability to Optimize Logistics Network with limited investments

## Old Model



## New Model

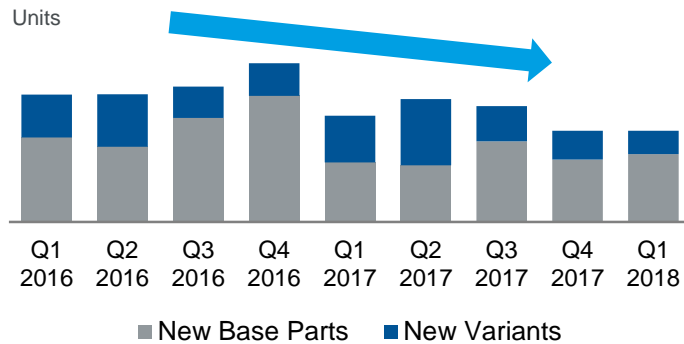


# Significant Benefits from 1P1P

Global Intelligent Standardization of Designs and Processes

## Reducing Complexity...

### Number of New Parts



### Global standardization of products & processes

- ✓ Define standard parts and promote reuse
  - 20% reduction in new parts created
- ✓ Manage global color requests
  - 40% less new color parts created

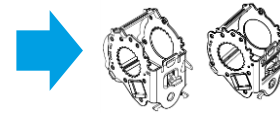
## ...and Costs...

### Previously



From 32 parts...

### Today

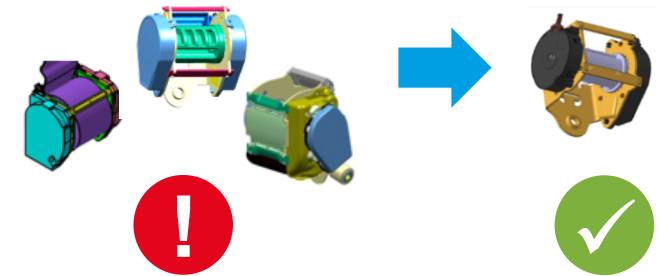


...to 2 standard parts

### Focusing on standard parts

- ✓ Value analysis and engineering
- ✓ Increase volumes with few parts
- ✓ Consolidate global supplier base
- ✓ Increase process efficiency

## ...While Improving Robustness



### Global management and sharing of lessons learned and knowledge

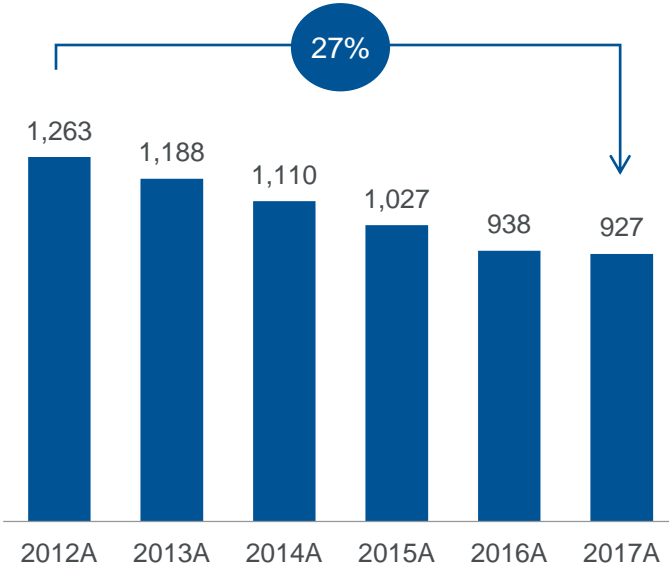
- ✓ Product design configurator
- ✓ Master drawings and features
- ✓ Standard parts

# Direct Profitability Impact from Operational Excellence

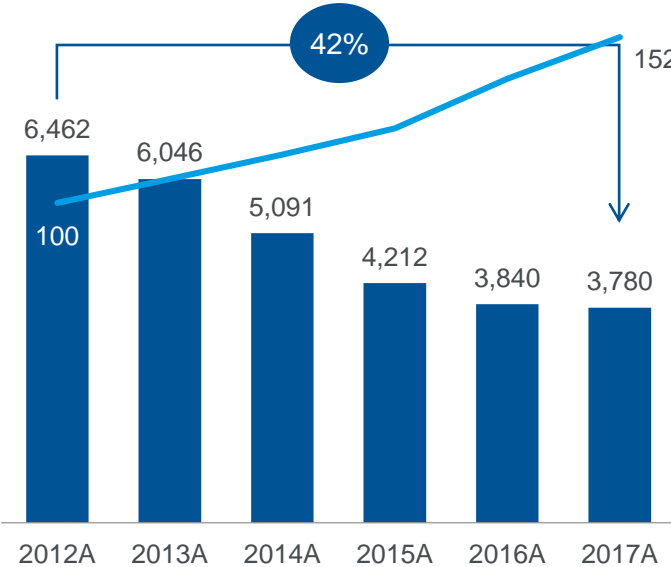
Continued Focus on Cost Reduction and Efficiency Increase

## Supplier Management Providing Direct Profitability Impact

### Number of Suppliers



### Reduction in Non-Conforming Materials vs. Increasing Number of Deliveries



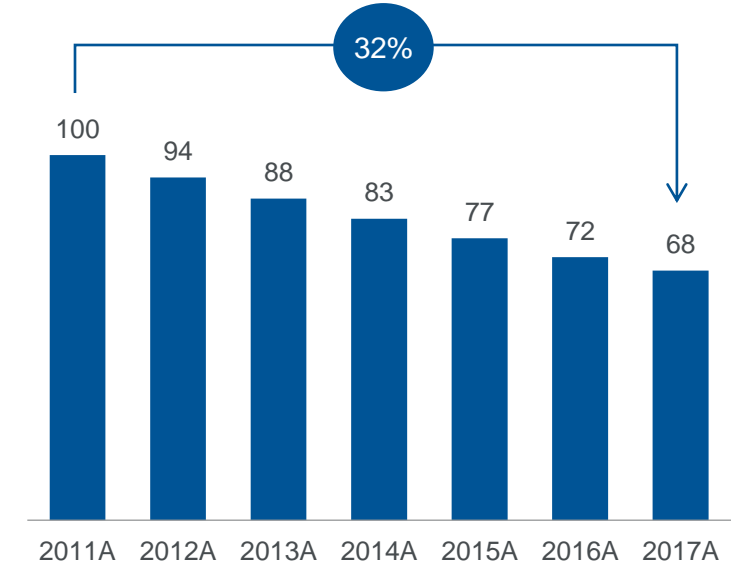
■ Number of Non-Conforming Materials    — Number of Deliveries<sup>(1)</sup>

(1) Indexed to 100 in 2012A

## Best Practice Sharing Across Divisions Boosting Efficiency

### Productivity Improvement

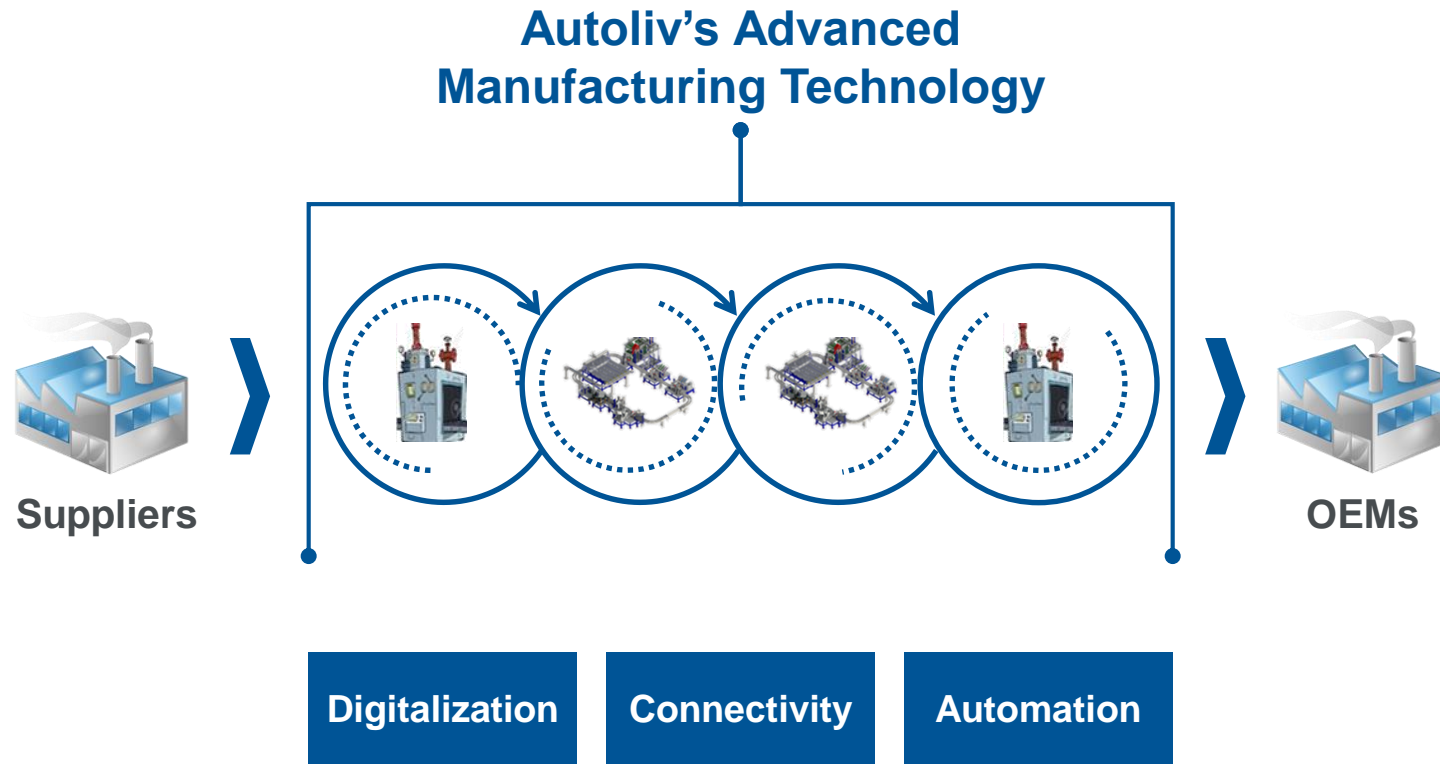
Labor Minutes per Produced Unit, Index to 100



**One Product One Process**  
to improve cost effectiveness  
and robustness

# Clear Path Towards Manufacturing 4.0

Selective Approach Towards Continuous Improvement of Production Efficiency



- ✓ Real-time data capture & sharing
- ✓ Significant cost reduction
- ✓ Enhanced productivity
- ✓ Increased speed to market
- ✓ New business opportunities
- ✓ Enabling remote expertise

# InvestorDay2018

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products save over  
30,000 lives

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