Honeywell Operating System

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Integrated Supply Chain

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Integrated Supply Chain
Driving Growth With HOS

- Quality
- Delivery
- Safety
- Productivity
- Inventory

Customer Satisfaction

Accelerated Growth Rate

Cost Leadership

Op Margin Expansion

HOS Maturity Drives Top And Bottom Line Results
## HOS: A Shift In Mindset

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
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<tbody>
<tr>
<td>• Top Down Plant Leadership</td>
<td>• Leaders Acting as Coach</td>
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<tr>
<td>• Project Based Improvements</td>
<td>• Continuous Improvements</td>
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<tr>
<td>• Operators as Doers</td>
<td>• Operators as Doers and Thinkers</td>
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<tr>
<td>• Unrealized Improvement Ideas</td>
<td>• Rapid Problem Solving Culture</td>
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Driving Continuous Improvement

**Improvement Ideas**

- 100,000+ New Ideas Annually
- Input Locally/Implemented Globally

**Process**

**Before**

**After**

- Reduced Inventory by 50%
- Operator Led Improvements

Daily walk of 2.7km

Daily walk of 150 meters
Process Standardization

Visual Management

- Rapid Problem Solving on Floor
- Learning Shared Across Sites

Capacity Optimization

Before

After

• +25% Output / Square Feet
• Space Available for Growth

HOS Implementation From 3 Years To 1 Year
HOS Evolution

Bronze
Four Walls of the Factory
Continuous Improvement
Lean Tools

Silver
Cross Functional Integration
Sales and Ops Planning
Procurement

Gold
Speed to Market
New Products
VPD™

Total Business System

HOS Now Impacts All Aspects Of Business Model
Turbo Operations Overview

- Full Product Range 1L to 100L
- Global Footprint – 13 Countries
- Global Sourcing – 30 Countries
- Just in Time Delivery
- 10,000 SKUs
- 1,000+ Suppliers

Broad Portfolio; Complex Global Supply Chain
### Key Results: Silver Turbo HOS Sites

- **Delivery**: +10%
- **Quality/PPM**: -70%
- **Productivity Rate**: +40%
- **Inventory**: -50%

#### Long Term Competitive Advantage

- Industry Best in Class Performance
- Customer Satisfaction and Cost Leadership
HOS: Turbocharging Growth

- Quality
- Delivery
- Safety
- Productivity
- Inventory

Customer Satisfaction → Accelerated Growth Rate

Transportation Systems Sales

2010: $3.2
2011: $3.9
2012: $3.9-$4.0
2013: $4.0-$4.4

Transportation Systems Segment Margin

2010: 11.1%
2011: 12.6%
2012: 12.7-13.0%
2013: 14.0-15.0%

Great Position In Growing Industry
Aero HOS – Building On TS Success

% Aero Manufacturing Cost

Year End 2011

- HOS Now Deployed Across All Aero Sites
- Leveraging HON-Wide HOS Success
- Silver/Bronze Sites Productivity Up 50%

Silver 6%
Bronze 35%
Full Scale Deployment 59%
Accelerating Aero HOS Deployment

Deployment Timing – Honeywell Aerospace

% of Conversion Costs By Phase

- 2012: 59% HOS Deployed, 30% Bronze Sites, 11% Silver Sites
- 2013: 71% HOS Deployed, 15% Bronze Sites, 14% Silver Sites
- 2014: 67% HOS Deployed, 33% Bronze Sites
- 2015: 51% HOS Deployed, 49% Bronze Sites
- 2016: 32% HOS Deployed, 68% Bronze Sites

100% Of Manufacturing HOS Bronze+ By 2014
Aerospace Operations Overview

- 84 Product Lines/10 Product Families
- Global Footprint - 17 Countries
- Global Sourcing - 41 Countries
- Plan for Every Part Delivery
- 80,000 SKUs
- 14,000 Suppliers

Accelerating Productivity And Flexibility Through HOS
HOS Silver – Minneapolis Site

Best Practices

- Accountability Down to Shop Floor
- Processes to Enables Issue Escalation
- Sites Connected to WW Functions

Employee Culture

- Empowerment of Operators
- Leadership Support and Coaching
- Employee Driven Improvements

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<tr>
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<td>Bronze</td>
<td>Silver</td>
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<td>Bronze</td>
</tr>
<tr>
<td></td>
<td>+240bps</td>
<td>-60%</td>
<td></td>
<td>+125%</td>
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Customer Improvement Without Walls
Customer Feedback

“Overall, HOS provides the framework for gains in productivity and quality beyond that typical in manufacturing. It is an industry best practice.”

“HOS is engrained, and it is evident that leadership is committed.”

 “[Recent] results are strong evidence that key ISC initiatives rolled out at the site…including HOS projects are paying huge dividends.”
HOS – A Jet Engine For Growth

• Foundation of Continuous Improvement Culture

• Building Upon Lean Tools and Standardization

• Reaching Beyond the Factory Walls

• Customer Satisfaction and Cost Leadership

HOS Accelerates Growth Rate And Margin Expansion