Company Lean Industry 4.0 transformation

I-CENTER - 07/05/2019

Maurizio Barp – Kaizen Promotion Manager
Agenda

- The Vitec Group & Vitec Imaging Solutions Division
- Operations Vision & Strategy
- Lean Manufacturing to Lean Industry 4.0 roadmap
- Takeaways
The Vitec Group: our Divisions

VITEC PRODUCTION SOLUTIONS

Broadcasters, film and video production companies

Anton/Bauer
Autocue & Autoscript
Camera Corps
Litepanels
OConnor
Sachtler
Vinten

VITEC IMAGING SOLUTIONS

Professional and enthusiast Photographers and Videographers

Avenger
Colorama
Gitzo
JOBY
Lastolite
Lowepro
Manfrotto

VITEC CREATIVE SOLUTIONS

Independent Content Creators, Filmmakers

Paralinx
RT Motion
SmallHD
Teradek
VitecEV
Wooden Camera
# The Vitec Group: Three-divisional structure

<table>
<thead>
<tr>
<th>Division</th>
<th>Revenue</th>
<th>Adjusted operating profit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vitec Production Solutions</strong></td>
<td>£118.7m</td>
<td>32.2%</td>
</tr>
<tr>
<td><strong>Vitec Imaging Solutions</strong></td>
<td>£201.6m</td>
<td>3.9%</td>
</tr>
<tr>
<td><strong>Vitec Creative Solutions</strong></td>
<td>£65.1m</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

- **Vitec Production Solutions**
  - Revenue: £118.7m
  - Adjusted operating profit: 32.2%

- **Vitec Imaging Solutions**
  - Revenue: £201.6m
  - Adjusted operating profit: 3.9%

- **Vitec Creative Solutions**
  - Revenue: £65.1m
  - Adjusted operating profit: 3.0%
What do we do – premium imaging accessories

* Clockwise from top left: Lowepro; Flipside Trek BP 450 AW; Manfrotto; Norco; National Geographic: Australia Collection; Gitzo; Adventury; Syrp; Magic Carpet Pro 3 Axle Kit; Lastolite; SkyLite Rapid Kit; Manfrotto; Lykos; JOBY; GripTight Pro Telepod; GorillaPod Mobile Rig; Manfrotto; Befree Advanced and PIXI EVO; Gitzo; Traveler a tripod; Avenger; Wind Up stand; Manfrotto; Xume filters.
Vision & Strategy

The **VISION** is to BE THE OPERATIONAL EXCELLENCE MANUFACTURING UNIT IN THE PHOTO/VIDEO SUPPORTS and LIGHTING CONTROL INDUSTRY, delivering the GOAL of BEST CUSTOMER SATISFACTION.

The **STRATEGY** is to continue and develop further LEAN MANUFACTURING in CULTURE, ORGANIZATION and PROCESS, EMPOWERING the CORE BUSINESS COMPETENCES.

**Strategy Pillars:**
- “*Made in Italy*” platform best in Service and Quality
- *Lean Industry 4.0* and continuous improvement
- Key industrial *process insourcing* and *Innovation through the “Pioneering Lab”*
From Lean Manufacturing to Lean Industry 4.0

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEAN – Production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assembly Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEAN – Extended</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEAN – Culture &amp;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEAN – Industry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lean Industry 4.0 – 2018 to 2020 GOAL

The GOAL:
OEE Improvement from +3% to +5% (*)

(*) ACT’18 OEE = 82%
4.0 Deployment: Tubes Machining line

1. Machine Production Scheduling


A process in 2 steps to control Machine performance:
1. The Machine sends to the ERP information about process steps
2. The Business Intelligence calculates the OEE, giving instant feedback to manage efficiency levels


4. Quality Control

2 types of quality control:
- Machine control by optical cameras
- Manual control by digital connected caliper
1 - Machine Production Scheduling

1-3 the Planner defines the production scheduling in the ERP, ERP sends data to the Machine, the Team Leader gives the machine the GO to start

**ERP Smart Interface:**
- Clear view of Machine Capacity scheduled/available
- Easy and smart Order scheduling, interface ERP-Machine to send production plan automatically
- Send data
- Move Before
- Move After
- Details about current Order and interface between Machine-ERP to transfer Order declaration details, when completed

4. The Machine works tubes and automatically sends to the ERP Order closure and details

**Easy to see production sequence**
A process in 2 steps to control Machine performance:

1. The Machine sends to the ERP information about process stops

2. The Business Intelligence calculates in-line OEE (Overall Equipment Effectiveness), providing immediate visibility to recover/manage inefficiency trends
3 - Continuous Machine monitoring – Visual Interface

Online Information about current Order processing

Online tool to monitor the production process stability
2 types of quality control:
- Machine control by optical cameras
- Manual control by digital connected caliper
Lean Industry 4.0 – next steps (2020-2022), Assembly

1. On line prod. scheduling
2. Andon in ERP
3. Badge in/ Badge out
4. Balancing & bottleneck analysis
5. Adjustable Workstation
6. Standard Work
7. Performance Cockpit WC/ WCs
8. Skills & training check
9. Linked Measurement tools
10. SMART production tool with I/O interface
11. Audit 6s & H&S on line filling

E board
Our Takeaways

- **The challenge is on People**, not on Technology – Technology is a commodity

- OEE: *our first implementation was a failure*, we started from the «number» not from the «user» → from failure to quick learning is a must

- 4.0 enables value creation on clear and stable processes → **LEAN first, 4.0 second**
Thank you!