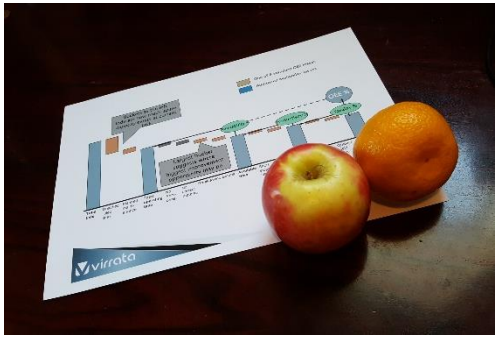
# OEE – Apples and Oranges



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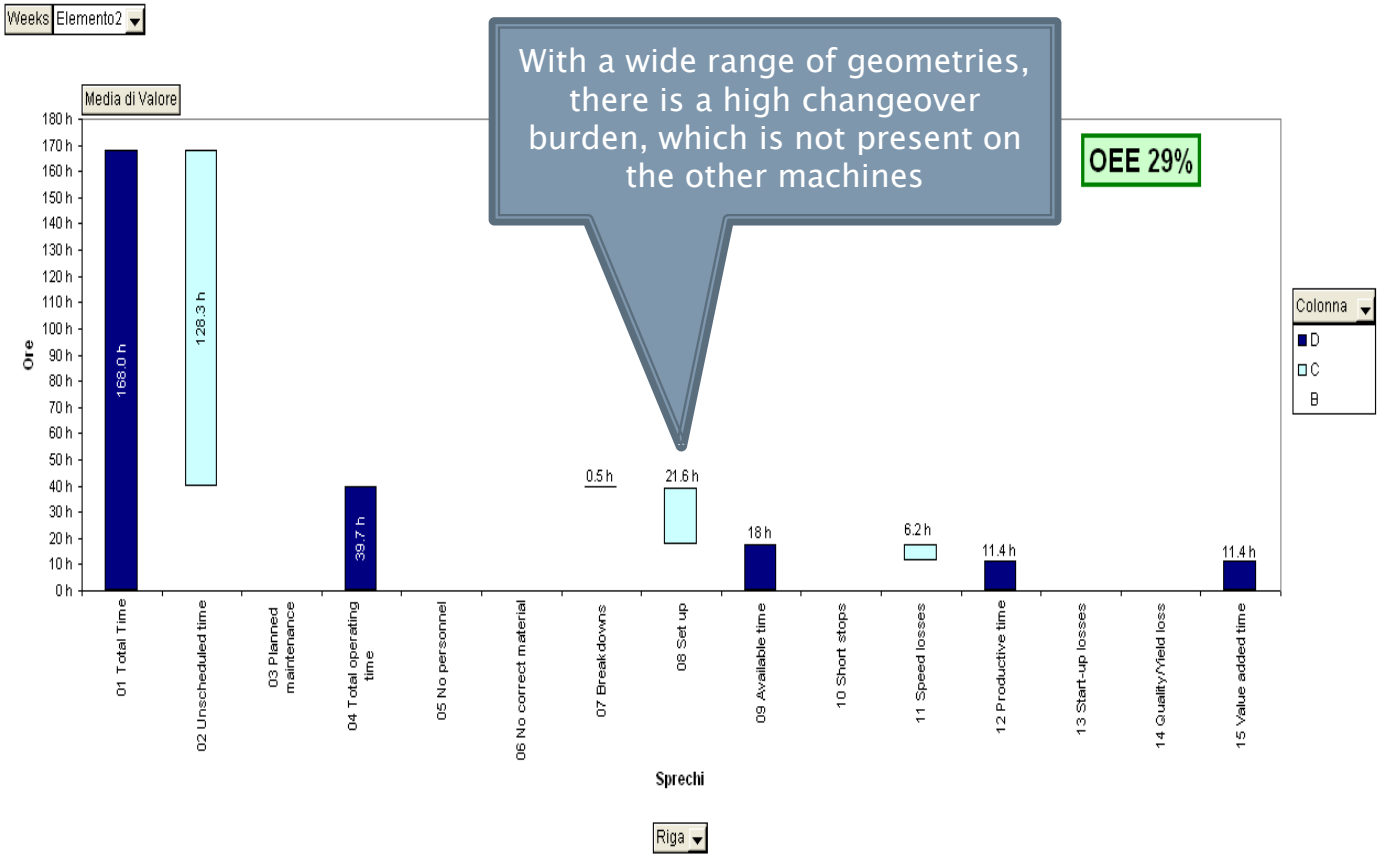
# Case Study:
# Bending machines –Italy
## Three similar machines, Three different results

- Machine one – produces all geometries and materials
- OEE 29%

- Machine two – produces two radii and several materials
- OEE 39%

- Machine three – produces one radius only
- OEE 50%

# Machine One




- It is clear that reducing changeover time can significantly improve OEE
- Even with rapid changeovers, the burden will always be greater than the machine producing only one variant

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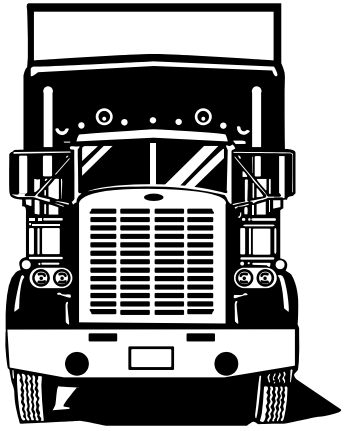
# OEE Example. Two identical machines – Two very different results

**Truck 1**

- Delivering ambient products from factory to distribution centres
- Motorway driving

**Truck 2**

- Delivering frozen food to retail outlets
- Urban driving

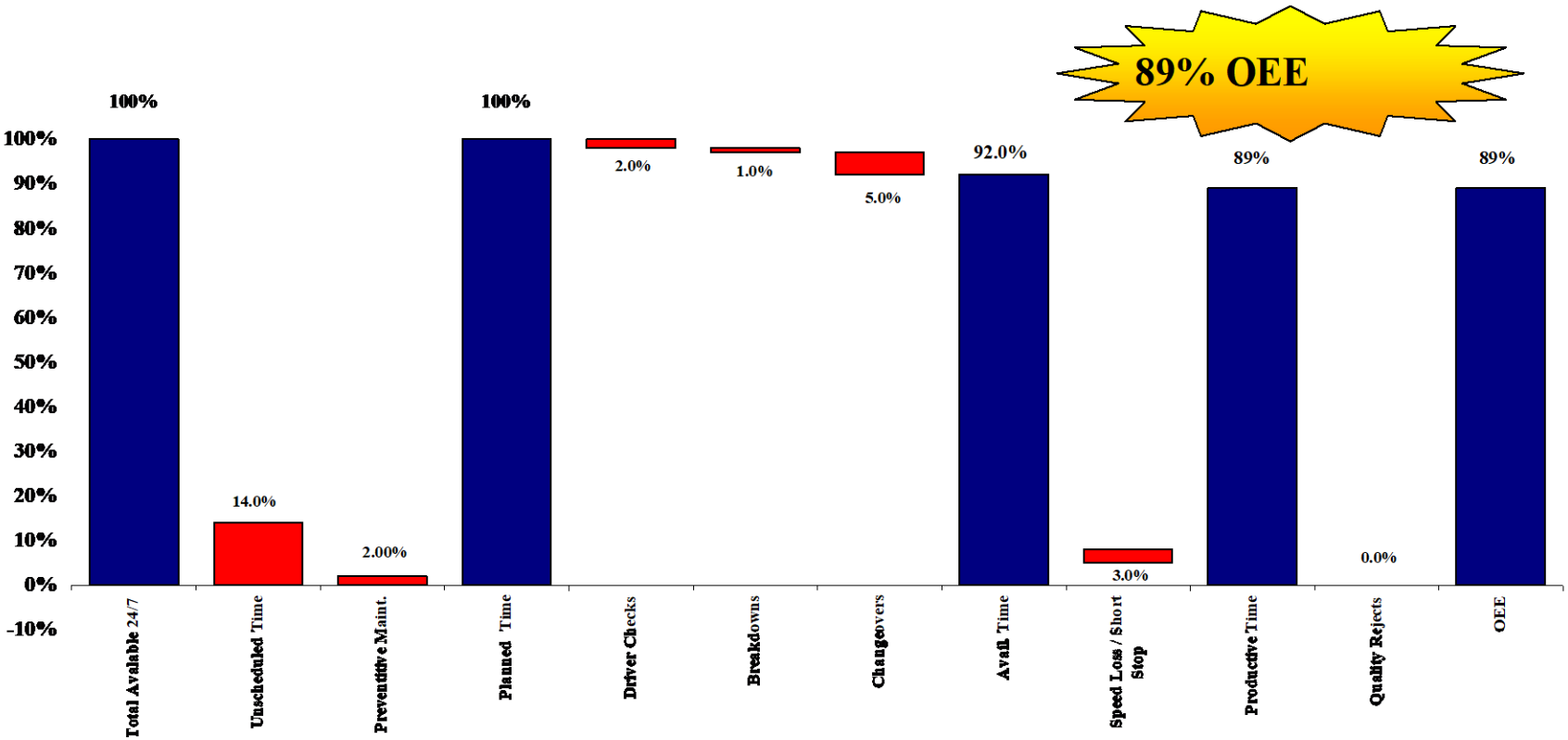


This theoretical example makes it easy to understand why comparing OEE may be misleading. Whilst it demonstrates the principles, there are many better ways to measure truck performance

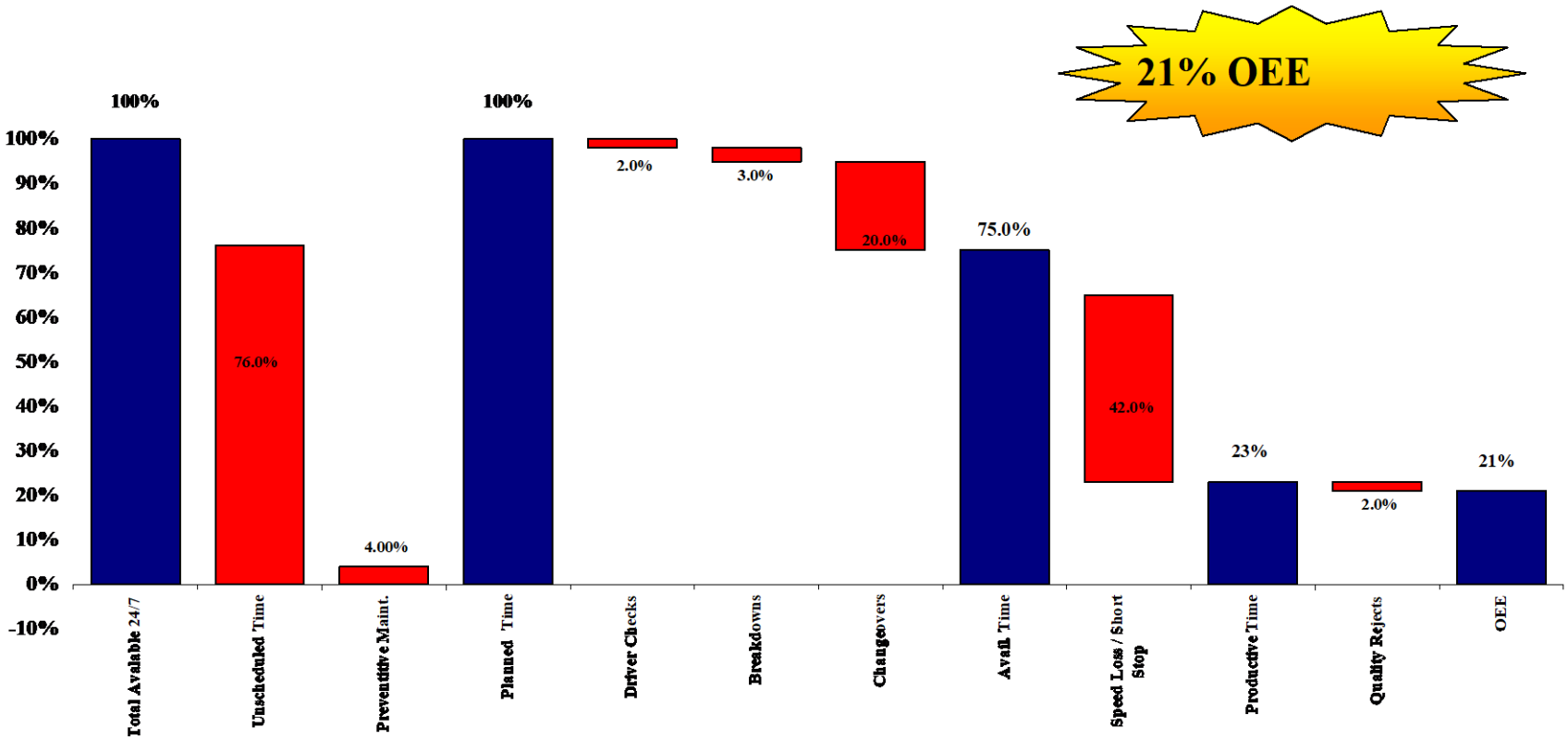
| Truck One – Losses | |
|---|---|
| Scheduled time | 24/6 |
| Minor stops | Motorway junction |
| Speed losses | Acceleration and deceleration joining the motorway |
| Start up losses | Driver vehicle checks |
| Quality losses | None |
| Breakdowns | Minimal |
| Changeovers | Load and unload four times per day |

| Truck Two – Losses | |
|---|---|
| Scheduled time | 8/5 |
| Minor stops | Every road junction |
| Speed losses | Urban speed limit 50km/h |
| Start up losses | Driver vehicle checks |
| Quality losses | Defrosted food, back doors left open |
| Breakdowns | Greater wear and tear |
| Changeovers | Load and unload 12 times per day |

# Truck One


89% OEE
100%
100%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
-10%
14.0%
2.00%
2.0%
1.0%
5.0%
92.0%
3.0%
89%
0.0%
89%
Total Available 24/7
Unscheduled Time
Preventitive Maint.
Planned Time
Driver Checks
Breakdowns
Changeovers
Avail Time
Speed Loss / Short Stop
Productive Time
Quality Rejects
OEE

# Truck Two


21% OEE
100%
100%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
-10%
76.0%
4.00%
2.0%
3.0%
20.0%
75.0%
42.0%
23%
2.0%
21%
Total Available 24/7
Unscheduled Time
Preventitive Maint.
Planned Time
Driver Checks
Breakdowns
Changeovers
Avail Time
Speed Loss / Short Stop
Productive Time
Quality Rejects
OEE

# Conclusions

- Very different results can be found with similar machines
- It is not usually appropriate to draw direct comparisons between different machines
- Each set of circumstances needs to be considered individually
- Action plans need to be tailored to each case
- A positive trend is more important than the OEE figure

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info@virrata.co.uk
+44 151 374 2802
www.virrata.co.uk

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