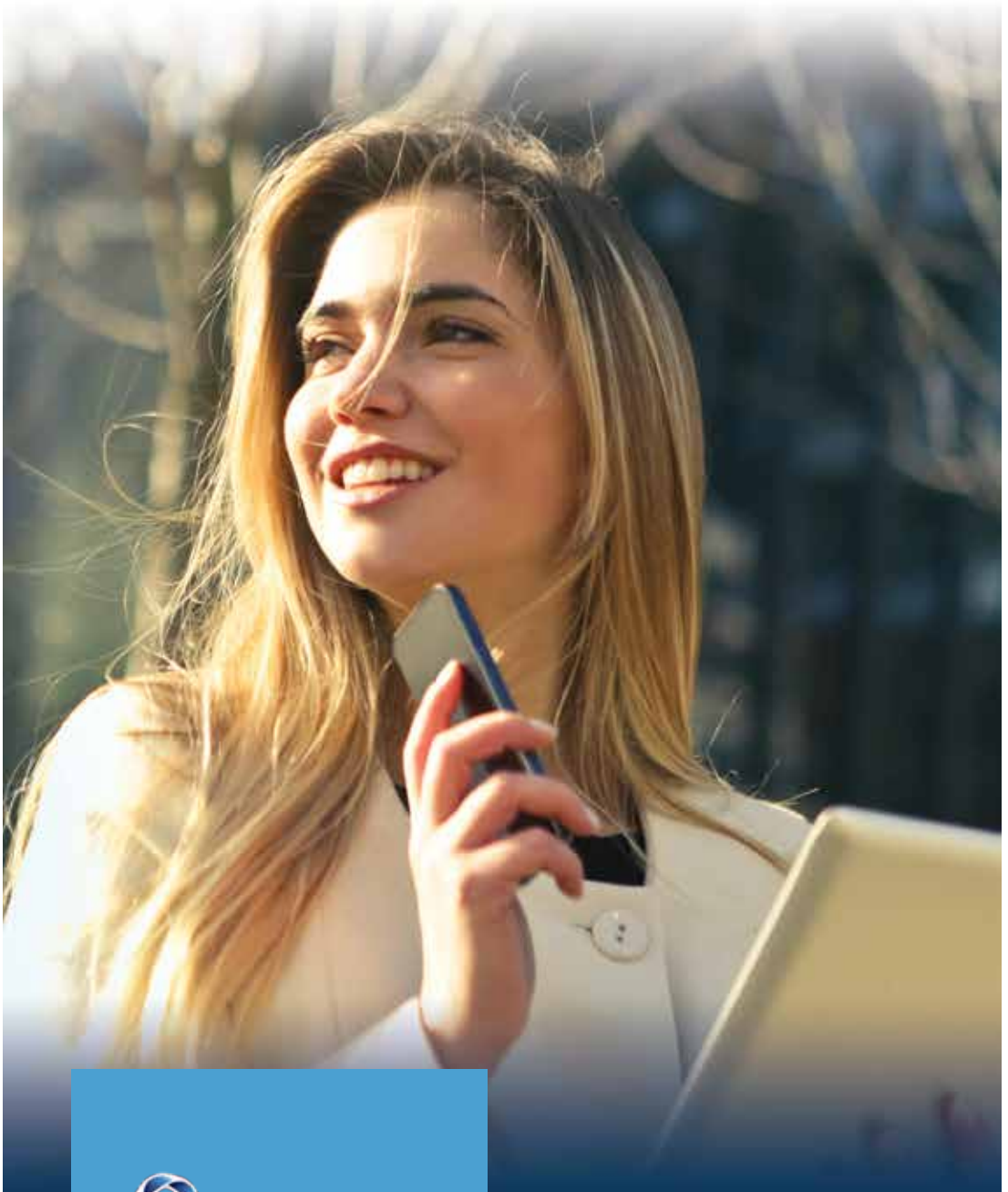


## A MANAGER'S GUIDE TO OEE

*“In order to succeed Manufacturing Managers need to be able to accurately assess their performance in real-time, identify real opportunities and produce tangible business performance improvements.”*



**OEEsystems**  
Operational Excellence Solutions



## ARTHUR STONE

CEO, OEEsystems International

“OEEsystems International are The OEE People. We work with the world’s most progressive manufacturing companies to increase capacity, reduce costs and drive Continuous Improvement. Our unique record of combining our Smart Factory OEE Software, PerformOEE™, with our Science of Manufacturing Methodology delivers real-time visibility, analysis and control of your manufacturing performance.”

OEE Performance Management Software and Expertise Combined.



**REDUCE  
COSTS**



**INCREASE  
OUTPUT**



**IMPROVE  
COMPETITIVENESS**

Manufacturing Managers across the world are under pressure to deliver business performance improvements for their businesses. To succeed they need to be able to accurately assess their performance, identify real opportunities and produce tangible business performance improvements.

“Overall Equipment Effectiveness” (OEE) meets this objective. It helps to identify improvement opportunities, delivers increased capacity and in turn reduces costs.

Put simply “OEE **measures the gap** between the actual performance and the potential performance of a manufacturing unit”.

### FOUR KEY AREAS THAT BENEFIT FROM AN OEE SOLUTION:

#### 1. Equipment:

**Increased equipment uptime and asset reliability driving performance** like never before with better management of the equipment life cycle.

#### 2. Personnel:

**Increased workforce efficiencies and productivity** by improving process visibility and **empowering** operators to take the right corrective action at the right time.

#### 3. Process:

**Increased productivity** by identifying bottlenecks.

#### 4. Quality:

Increased rate of quality and **reduced scrap**.



## OEE AS A PRODUCTION PERFORMANCE METRIC?

If you are not currently using OEE as a Production Management Performance Metric then you are missing one of the most **influential Key Performance Indicators** (KPIs) for Production Management.

Companies that truly understand OEE adopt it into their production process do so for some of the following business reasons:

- Increase Output using existing resources to meet Customer Demand.
- Increase the Sales Margins on product by reducing the cost of Production.
- Allow for more flexibility within existing Production Processes to win new business (for example smaller batch sizes).
- Promote a strong sustainable culture with your people focused on Production Performance Improvement.

With a Smart Factory solution, such as PerformOEE™, managers can successfully **monitor OEE plant metrics** and **drill down to find the root causes** of production problems, getting **minute-by-minute updates** that enable **real-time process improvement**.



**PerformOEE™ ROI**  
SMART FACTORY SOFTWARE®



**29%  
INCREASE**

Increase in Volume



**68%  
REDUCTION**

in Unplanned Downtime

**20%  
INCREASE**

Increase in OEE

**18%  
REDUCTION**

in Cost per Unit

**5%  
INCREASE**

Increase in Yield

**14.2  
DAYS PAYBACK**  
Payback on PerformOEE™  
every 14.2 days.



# INCREASE CAPACITY, REDUCE COSTS

Rather than thinking of OEE as Overall Equipment Effectiveness you should think of it as Overall Production Performance Effectiveness, with the main users and drivers of OEE extending beyond Engineering to include Operations, Production, Quality, Maintenance, Continuous Improvement/ Lean, Planning, Supply Chain and Senior Management.

## THE VALUE PROPOSITION

An OEE system offers the following immediate financial benefits:

### 1. REDUCED DOWNTIME COSTS

When a critical machine is inoperable, it brings downstream operations to a standstill.

This can negatively affect delivery commitments to the customer, which in turn impacts cash flow and revenue.

Each hour of downtime can equate to thousands in terms of lost revenue. An OEE system that monitors & tracks downtimes by assigning root causes gives greater process visibility & enables performance improvements to be identified, implemented and benchmarked for future gains.

Reducing downtime can not

only provide greater revenue opportunities through increasing capacity but it can also produce significant cost savings.

### 2. REDUCED REPAIR COSTS

As the historical database of downtime reasons (root cause analysis) grows, the maintenance department can identify certain trends that will allow them to predict impending failures, thus enabling predictive maintenance. This can, in turn, dramatically reduce repair costs.

Interfacing an OEE system with a CMMS (Maintenance Management System) system also allows the maintenance department to take proactive steps towards predictive maintenance.

# MINIMISE WASTE, DRIVE CONTINUOUS IMPROVEMENT

### 3. INCREASED RESOURCE EFFICIENCIES

Most manufacturing companies are constantly trying to find ways to increase productivity whilst maintaining existing resources. An OEE system helps, because it not only captures downtime reasons, but also shows capacity loss data and cycle times.

With this information, management can better judge the most appropriate allocation of staff, equipment, raw materials and even existing systems to better refine the line balance and the usage of all resources.

### 4. REDUCED WASTE

Rate of Quality is a percentage of good parts produced versus the total parts produced. An OEE system must capture the quantity of total parts produced, the number of scraps or defects and the reason for their waste classification. Because this information is captured at specific machine or line level, the systems is actually capturing quality in the context of the part produced.

By tracking context-rich quality data using OEE, production managers can identify root causes and eliminate the further costs associated with rework and scrap. Improving the focus on quality at every stage of production also reduces future warranty costs.

### 5. INCREASED PERSONNEL PRODUCTIVITY

An OEE system enables the shop floor to go paperless. Typically, facility operators and supervisors spend an enormous amount of clerical time recording, assessing and reporting downtime reasons and root causes on paper to

then further explain these reports to management.

An OEE system captures and reports downtime and efficiency automatically, saving time lost on non-value adding reporting activities. As a result personnel are free to focus on more valuable tasks.

With OEE, everyone from the shop floor to the boardroom is more informed, more often, more easily.

### 6. INCREASED PRODUCTION FLEXABILITY

The net effect of reduced machine downtime, higher productivity of operators and reduced defects is the ability to achieve higher production levels with the same amount of resources.

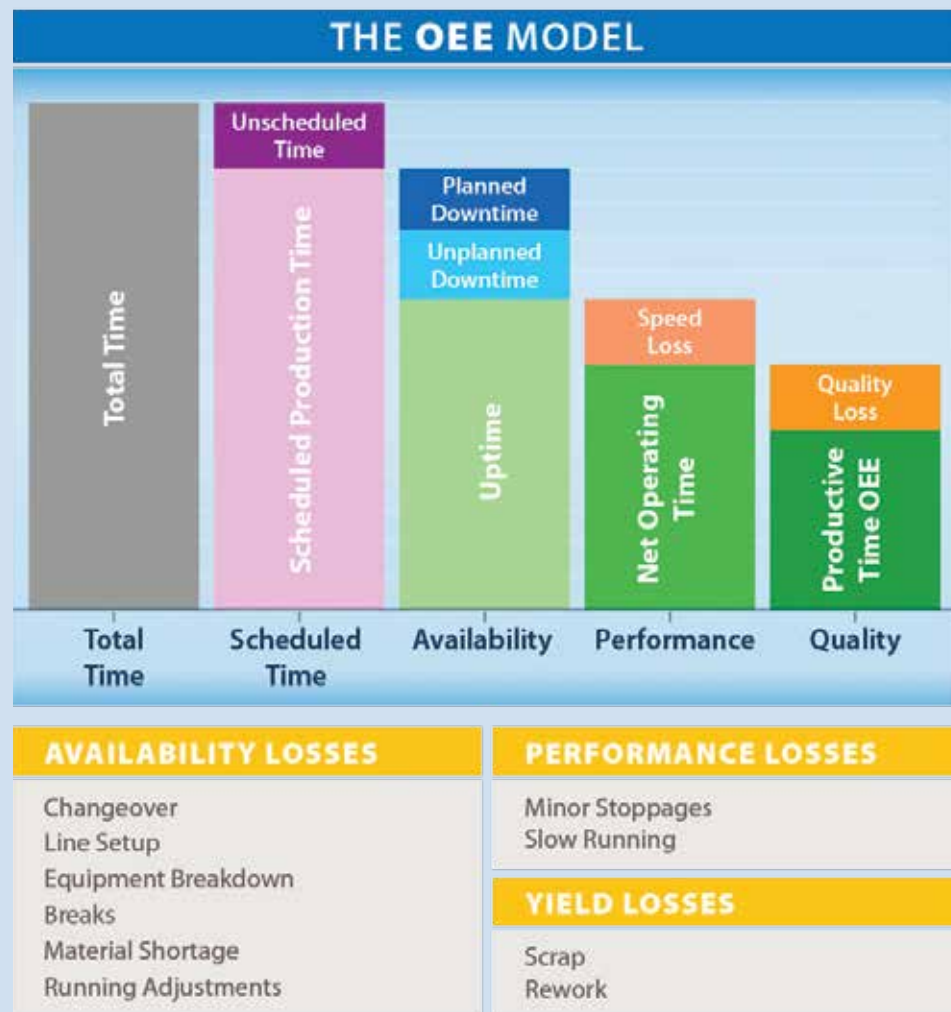
“An OEE system not only captures downtime reasons, but also shows capacity loss data and cycle times.”



“With OEE, everyone from the shop floor to the boardroom is more informed, more often, more easily.”



# THE OEE MODEL



## WHAT IS OEE?

OEE is a highly effective Business Performance Management Tool. It critically evaluates how effectively a manufacturing operation is put to use.

OEE can be used on single and multiple production lines and from one to any number of plants in a group. It is suitable for all types of manufacturing processes including discrete, continuous or bulk.

Companies that truly understand how to properly integrate OEE within the production management process achieve significant gains. When deployed properly, OEE achieves the following:

- Cross Functional Teams working in a pro-active manner

delivering on the right projects with measurable returns.

- Facilitates and actively encourages culture change by empowering your people to be accountable and responsive.
- Each OEE measurement point becomes an accurate reflection of the production process and accurately identifies production loss issues ranging from reliability, supply chain, process and operational procedures.
- Answers business assumptions about the production process and presents information to support the business (Production Time Vs Production Costs Vs Production Capacity).

# SMART FACTORY SOFTWARE

PerformOEE™ detects the root causes that have the greatest impact on your business performance. As an automated, accurate and real-time data collection software solution, it delivers superior process visibility on any device. It accurately tracks losses and highlights a continuous stream of performance improvement opportunities to focus on and fix.

- ✓ REAL TIME PERFORMANCE MANAGEMENT
- ✓ DOWNTIME TRACKING & PERFORMANCE TRENDING
- ✓ AUTOMATED PERFORMANCE REPORTS & ALERTS
- ✓ INSTANT ONLINE COLLABORATION TOOLS
- ✓ QUALITY MANAGEMENT (SCRAP, WASTE, REJECTS)
- ✓ VISUAL FACTORY DISPLAY FORMATS
- ✓ PREBUILT CHARTS & REPORTS
- ✓ CUSTOM REPORTS, DASHBOARDS & VIEWS
- ✓ SIC, SPC & CPC
- ✓ QUALITY CHECKLISTS & COMPLIANCE
- ✓ OVERALL WORKFORCE EFFICIENCY (OLE)
- ✓ FLEXIBLE ARCHITECTURE - Both On-Premise Or Cloud Options
- ✓ RAPID INSTALLATION & DEPLOYMENT
- ✓ ONBOARDING & COACHING through The Science of Manufacturing
- ✓ CUSTOMER SUPPORT & TRAINING

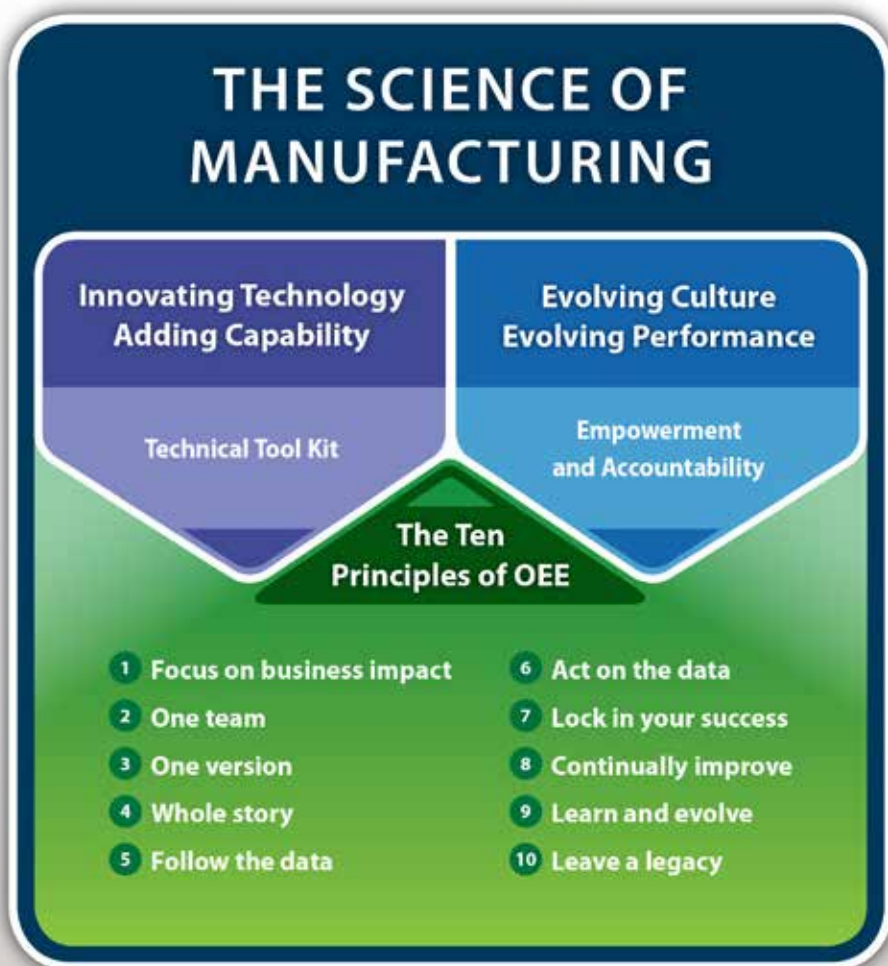


# THE OEE PEOPLE

DELIVERING REAL-TIME  
VISIBILITY, ANALYSIS AND CONTROL  
OF YOUR MANUFACTURING PERFORMANCE

## THE SCIENCE OF MANUFACTURING: THE TEN PRINCIPLES

OEEsystems International's Smart Factory Software, PerformOEE™, achieves step-change business performance improvement through data-driven technical and cultural development, embodied in their "Science of Manufacturing" Methodology.



**OEEsystems**

Operational Excellence Solutions

[OEEsystems.com](http://OEEsystems.com)

Intl: +353 (0)52 618 1900  
UK: +44 (0)127 988 1999  
US: +1 848 209 0001

[info@OEEsystems.com](mailto:info@OEEsystems.com)