

## OEE Playbook: Four Maneuvers to Score Higher Points

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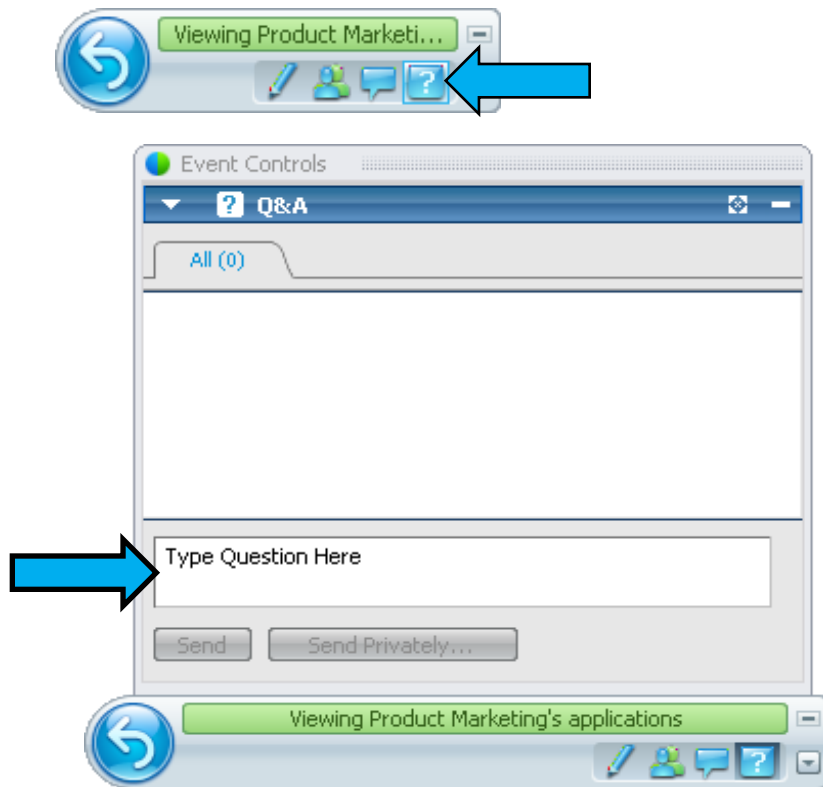
# Recording in Progress

This webcast is being recorded.

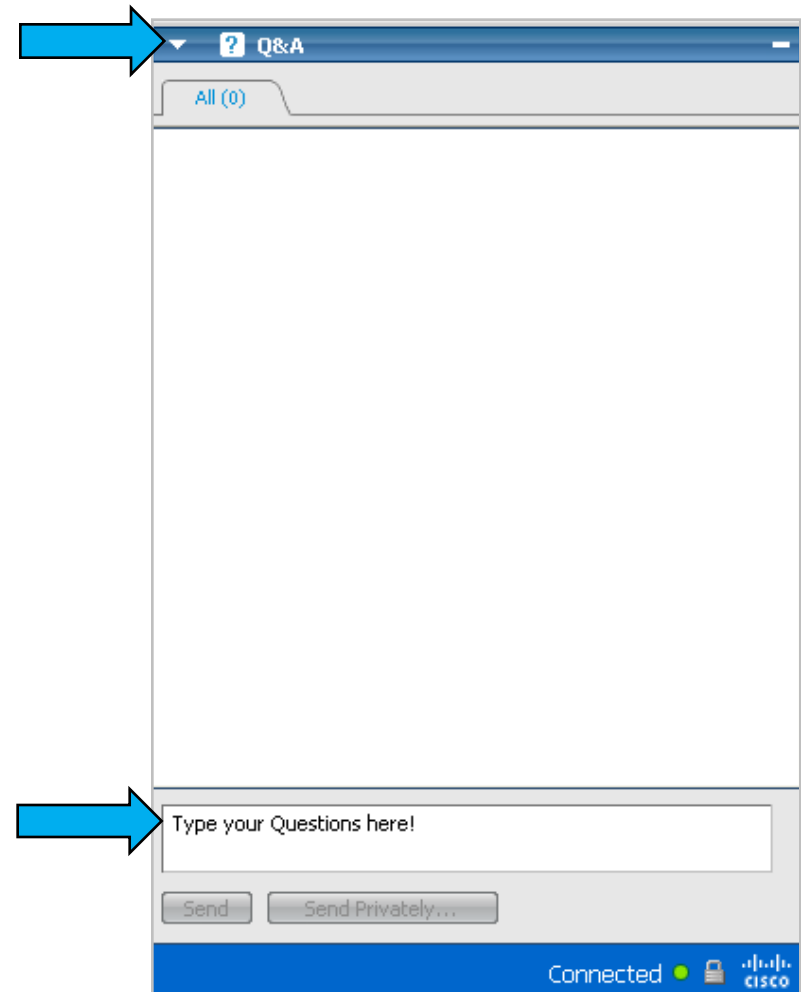
You will receive a link to the recording so you can replay it or share it with colleagues.



# Q&A Instructions



OR



# Host and Guest Speaker

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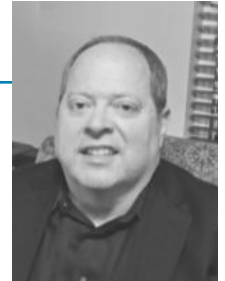


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# Defense

× ×  
Safety Safety

× Cornerback Middle Linebacker Cornerback ×

× Outside Linebacker × Outside Linebacker ×

× × × ×  
End Tackle Tackle End

Spotted Football (🏈) Neutral Zone

○ ○ ○ ○ ○ ○ ○ Tight End

**MANEUVER #1 | Use OEE for the Right Reasons**

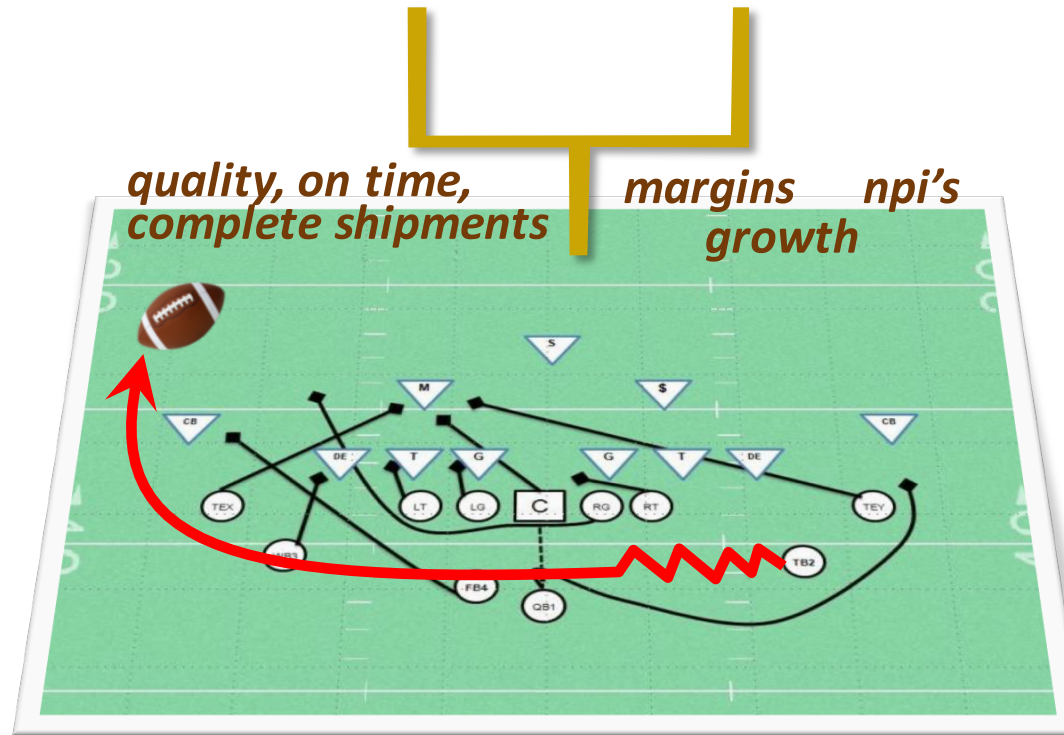
○ Quarterback Wide Receiver

○ Fullback/Running Back

○ Halfback/Running Back

# Offense

# Why do we measure and report OEE?



**Drive** past the line of scrimmage to the goal.

- Express performance quickly, easily
- Starting point to establish priorities
- Measure progress on initiatives
- Correlate actions

# The “1% Rule” → ~~\$1B~~ Company

\$100-250m

Value Lever	Value Potential		Financial Statement Indicator
Labor Savings	\$74,038	<del>\$423,077</del>	COGS / SG&A
Inventory Savings	\$58,277	<del>\$333,013</del>	Inventory / COGS
New Revenue Margin Contrib.	\$81,018	<del>\$462,962</del>	Gross Profit
Expected Revenue Uplift	\$324,074	<del>\$1,851,851</del>	Revenue
One Time Incr. in Working Cap	\$388,515	<del>\$2,220,088</del>	CapEx / Assets
<b>Just a 1% Increase in OEE...</b>	<b>~\$1.14m</b>	<b><del>\$6,510,048</del></b>	<b>...to the business</b>

# Defense

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Safety Safety

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× × × ×  
End Tackle Tackle End

Spotted Football (⋮) Neutral Zone

○ ○ ○ ○ ○ ○ ○ Tight End

## MANEUVER #2 | Measure OEE Consistently

○ Quarterback Wide Receiver

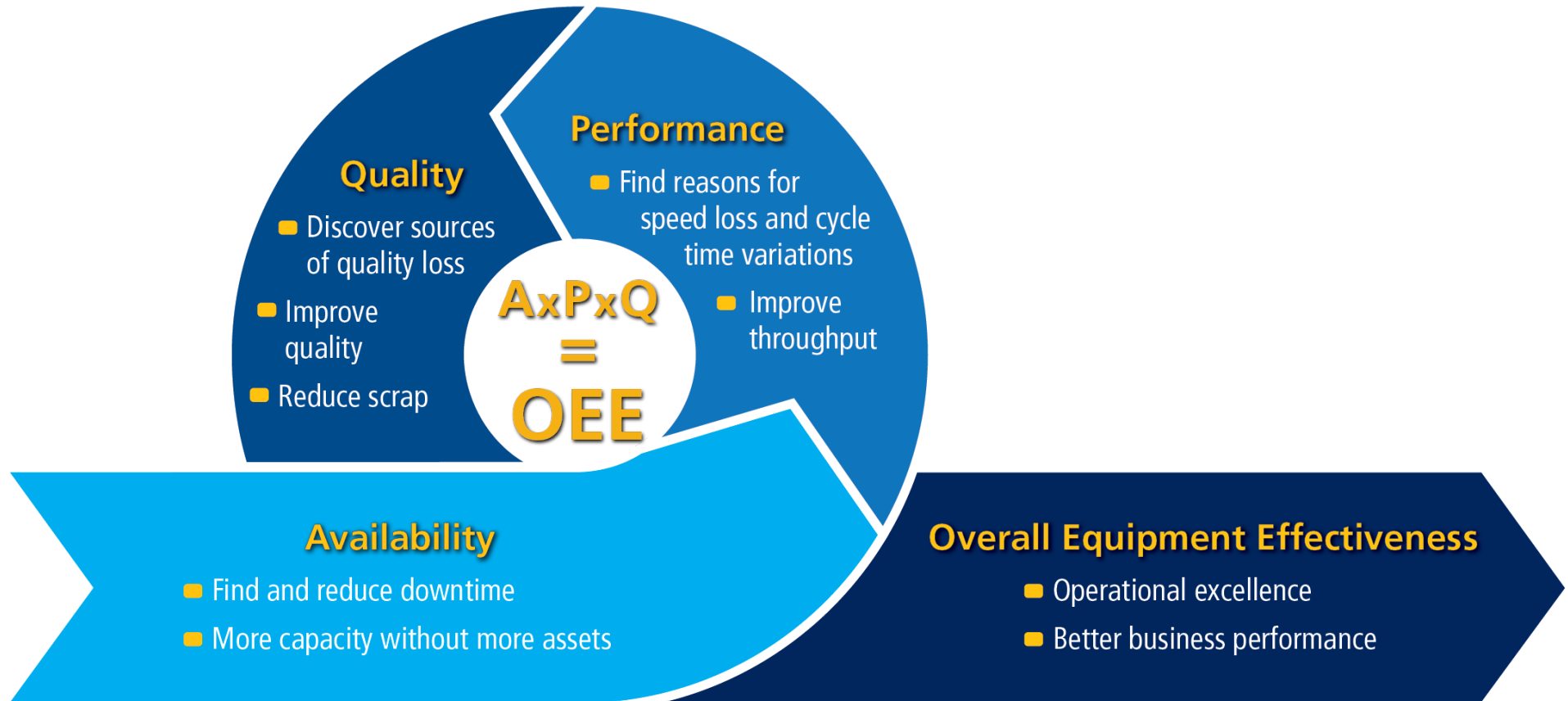
○ Fullback/Running Back

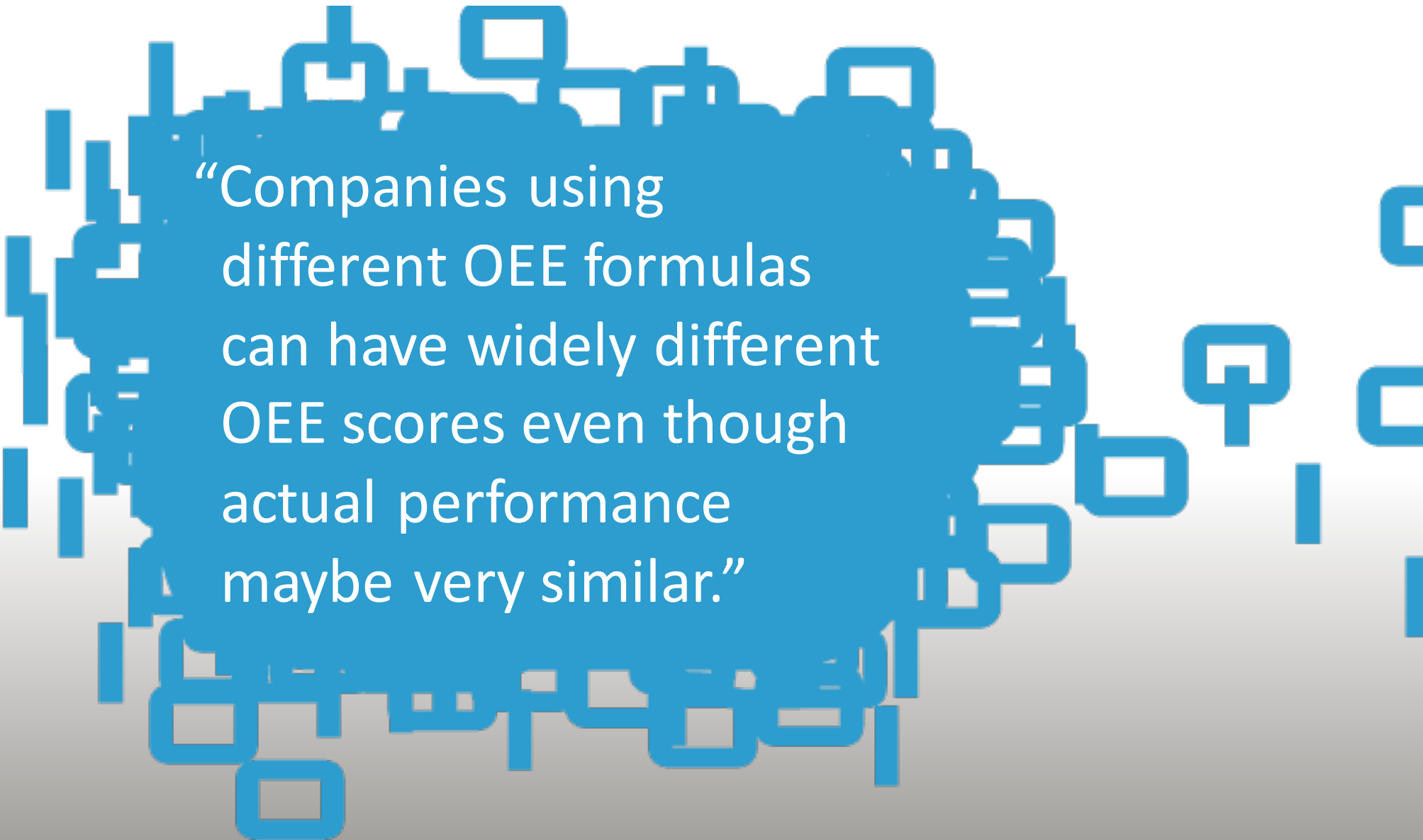
○ Halfback/Running Back

# Offense



# What is OEE?





“Companies using different OEE formulas can have widely different OEE scores even though actual performance maybe very similar.”

Littlefield, Matthew. "Understanding the OEE Formula - Part 1." LNS Research Operational Excellence Blog | Quality Management, Manufacturing Operations, and Industrial Energy Management. Last modified February, 2012.  
[http://blog.lnsresearch.com/blog/bid/125563/Understanding-the-OEE-Formula-Part-1.](http://blog.lnsresearch.com/blog/bid/125563/Understanding-the-OEE-Formula-Part-1)

# Are we inadvertently “hiding” loss?

## AVAILABILITY

- Hidden downtime?

## PERFORMANCE

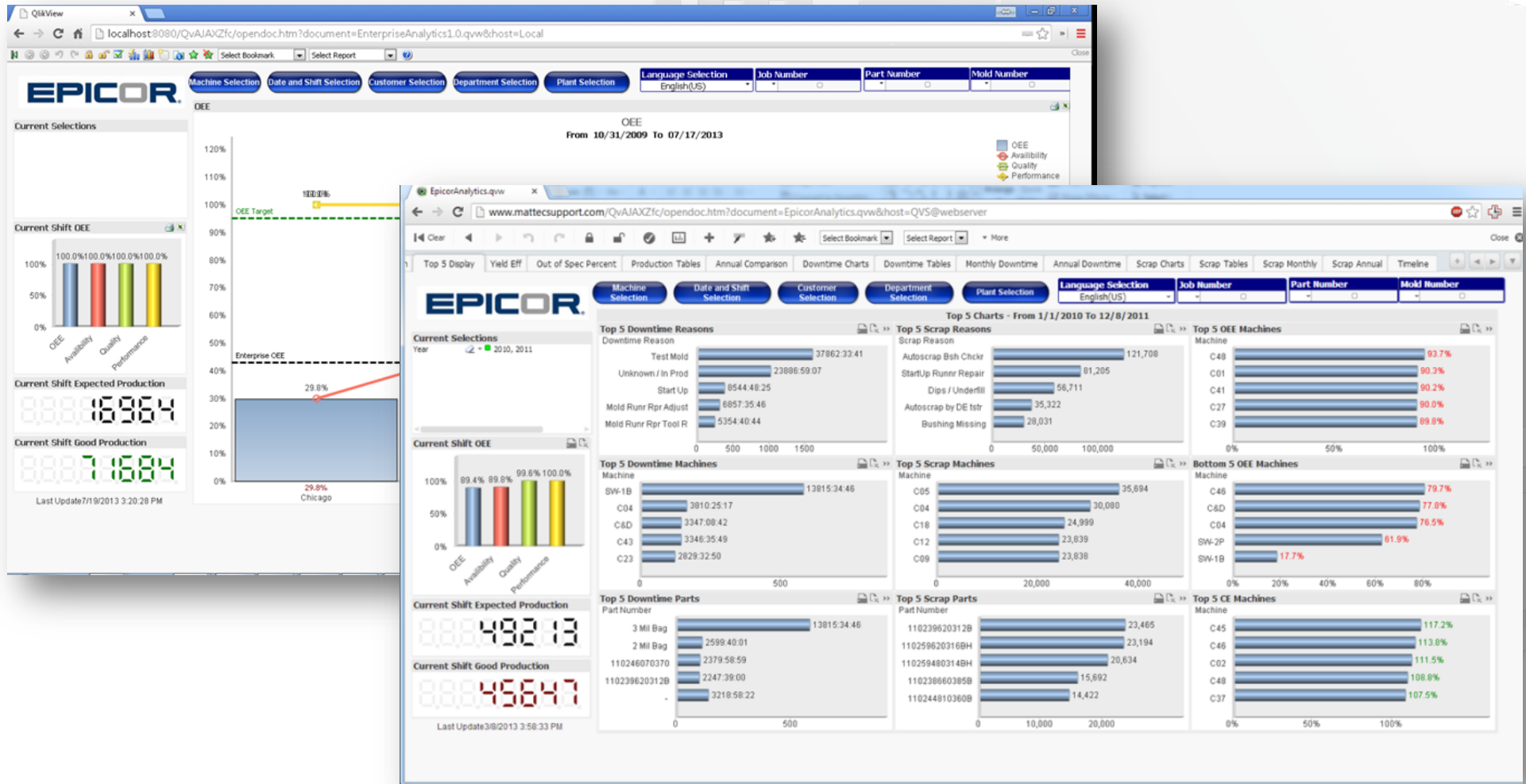
- Correct planning / standard rates?
- Correct throughput and rework counts?

## QUALITY

- Are scrap rates acceptable?
- Do we know the reasons for quality loss?

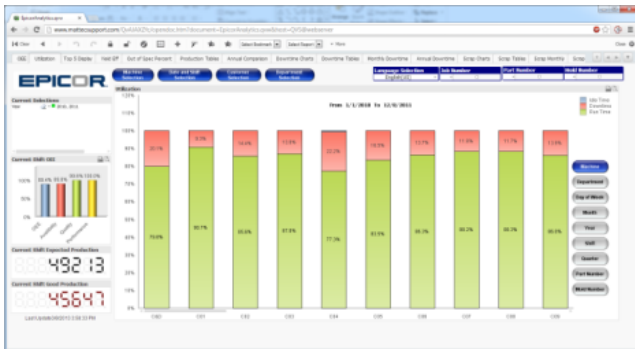


# Uniform reporting ...

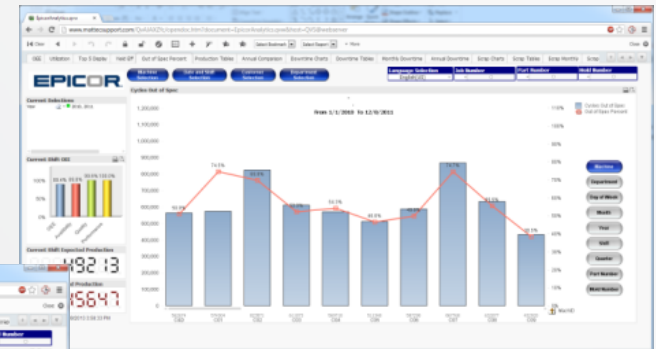


# Consistent, accurate analysis

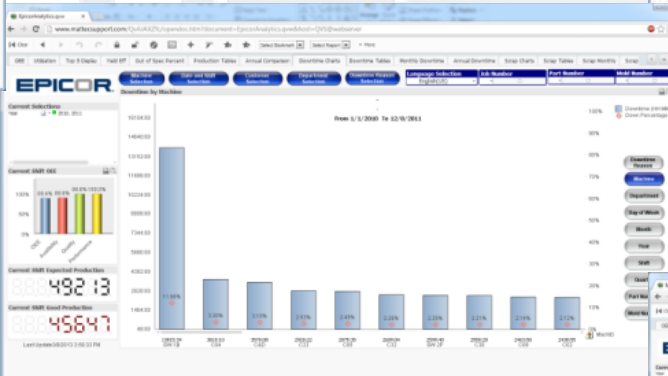
## UTILIZATION ANALYSIS



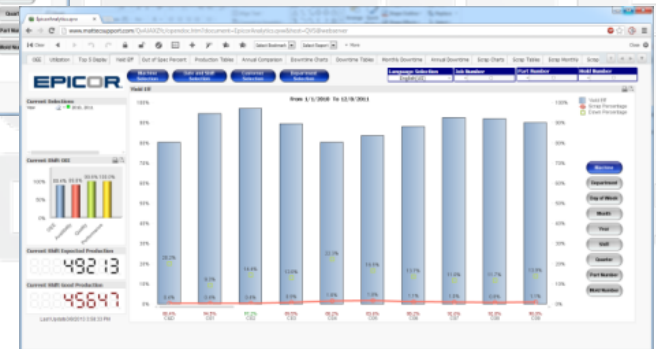
## OUT OF SPEC ANALYSIS



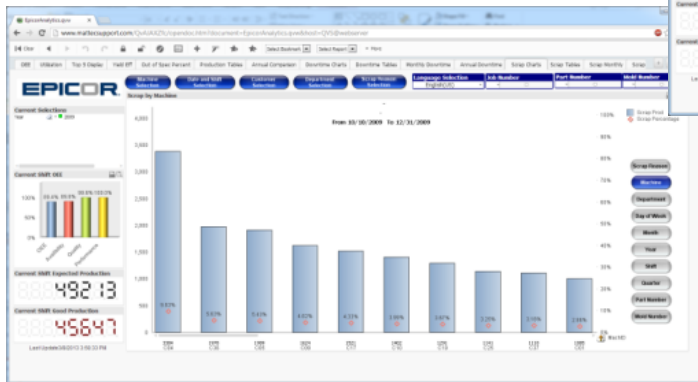
## DOWNTIME ANALYSIS




## YIELD EFFICIENCY



## SCRAP ANALYSIS





“Operational success depends on the ability to measure. The more data-driven, the better your company performs.”

Aberdeen Group. "Three Simple Steps to Unlocking the Value of Manufacturing Data." Last modified July, 2013. <http://v1.aberdeen.com/launch/report/perspective/8603-AI-manufacturing-data-value.asp?lan=US>.

# Data Collection Methods

## Manual



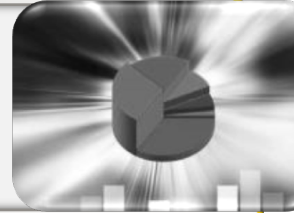
- Varying detail levels
- Often not event focused, but summary
- May be entered manually into spreadsheet or other system
- Low skill/cost to implement
- Cumbersome paperwork
- Difficult to attain accuracy, detail, and consistency

## Integrated Manual + Automated



- Consistent level of detail
- Sensor input with operator confirmation / additions
- Operator + automated entry directly into database with context
- Critical automated signals capture to keep programming cost low
- Visible real time with engagement
- Accurate and consistent for event time, metrics, and detail; operator + automated signals add context for C&E

## Strictly Automated



- No operator input
- Sensor based
- Machine signals direct to database, may not have context
- Can be programming intensive and costly
- Visible real time
- Accurate for event time and certain metrics but difficult to discern cause and effect (C&E)



# Defense

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× ×  
Safety Safety

× Cornerback Middle Linebacker Cornerback ×

× Outside Linebacker × Outside Linebacker ×

× × × ×  
End Tackle Tackle End

Spotted Football (⋮) Neutral Zone

○ Tight End  
○ Wide Receiver  
○ Quarterback  
○ Fullback/Running Back  
○ Halfback/Running Back

**MANEUVER #3** |

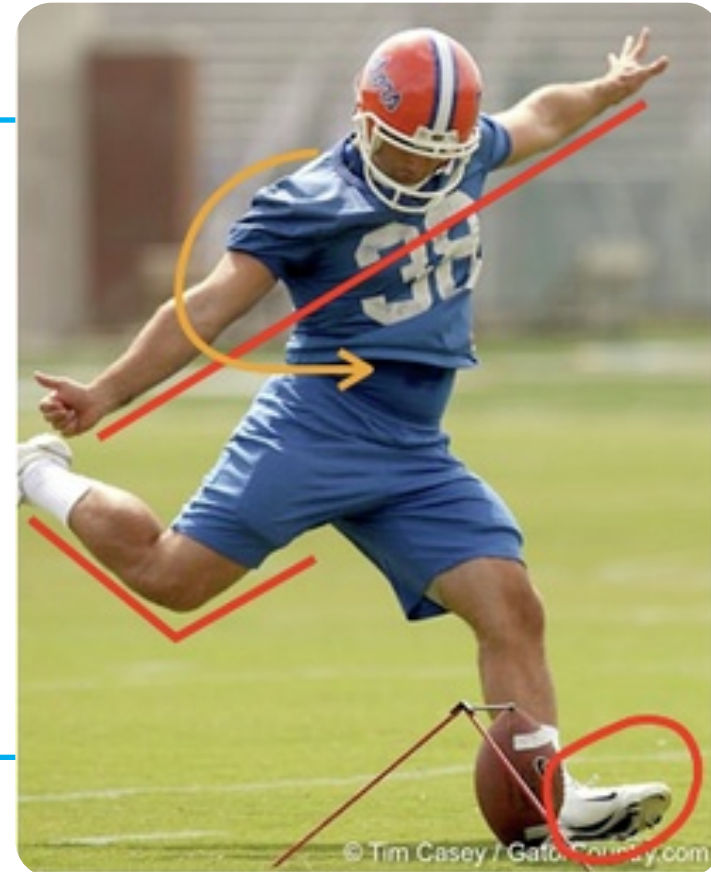
**OEE Isn't A Silver Bullet ...  
Find the Source of Efficiency Loss**

# Offense



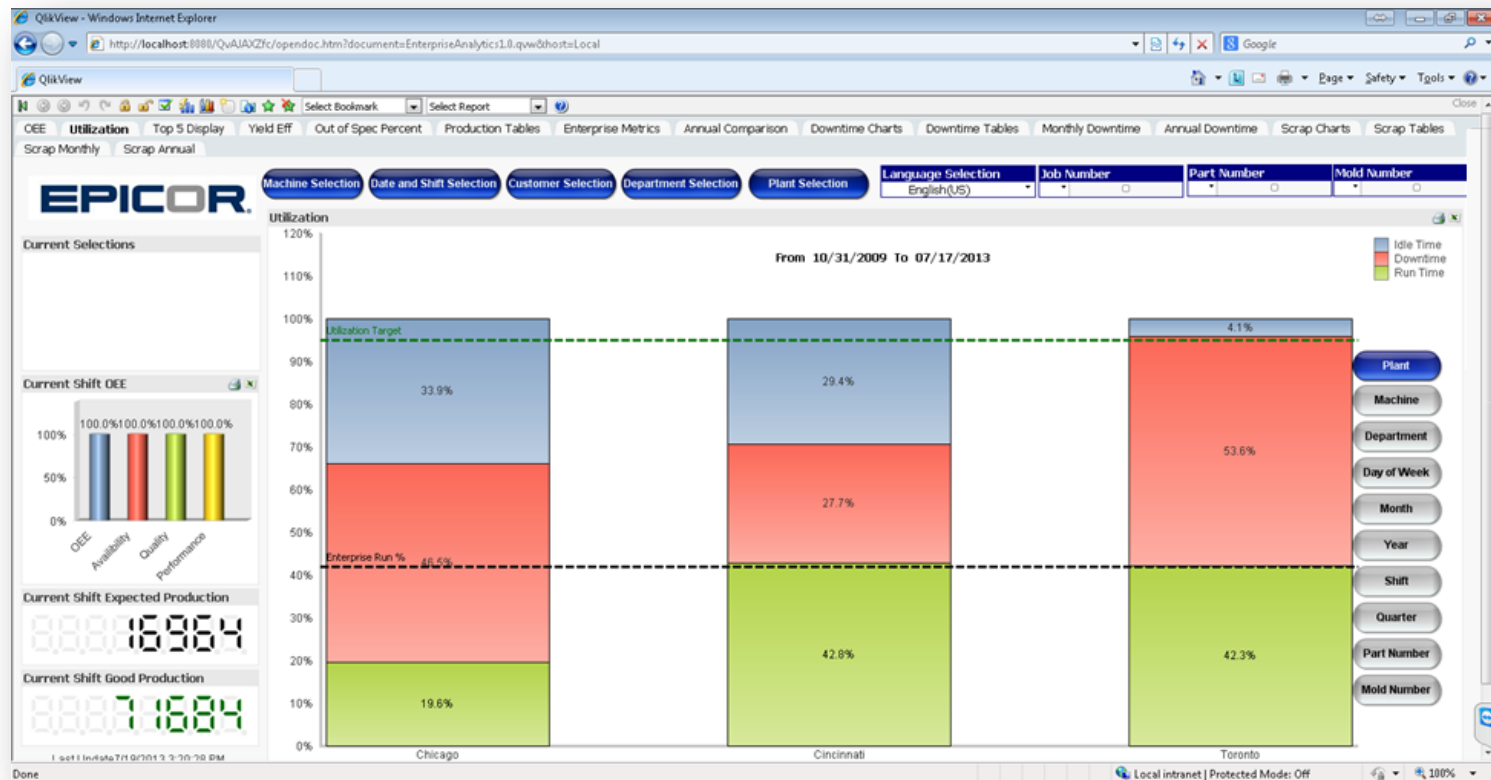
# What are the “easy plays”?

- ❑ Minor stops
- ❑ Planned downtime (lunches, breaks, meetings, etc.)
- ❑ Changeovers
- ❑ Real-time data combined with operator insight
- ❑ Set priorities
- ❑ Monitor results



# Not just numbers ...

- Real-time information – deviation/gap recognition and severity
- Depth and dimension – where, what, and when that created the gap



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## MANEUVER #4 | OEE as ... the "Hike"

○ Quarterback Wide Receiver ○

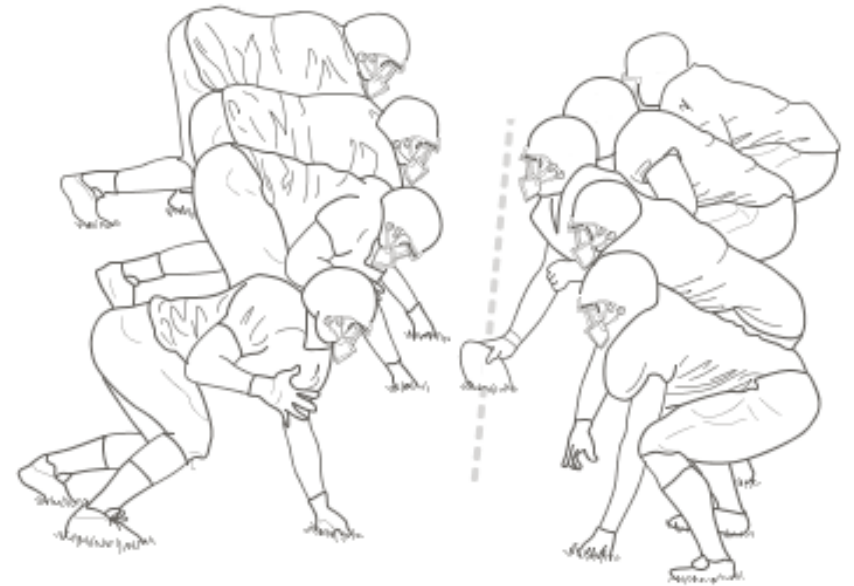
○ Fullback/Running Back

○ Halfback/Running Back

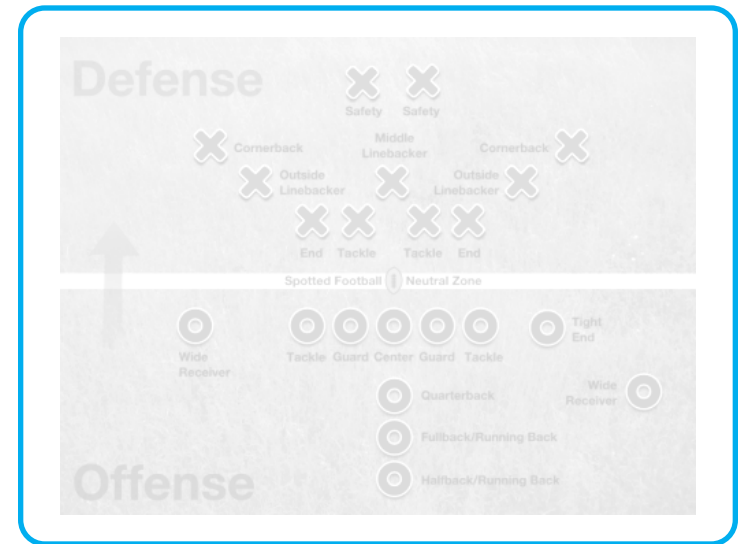
# Offense

# The Hike ... Which Direction Next?

- ▣ Compare shifts, work cells, product lines ...
- ▣ How do different tactics affect OEE?
- ▣ What can we do differently?
- ▣ Why are some shifts better than others?
- ▣ How do tactics line up with corporate strategies and requirements?
- ▣ What action is required to hit OEE goals AND product quality and delivery requirements?



# Playbook Recap



**MANEUVER#1** | Use OEE for the Right Reasons

**MANEUVER#2** | Measure Consistently

**MANEUVER#3** | Get to the Source of Efficiency Loss

**MANEUVER#4** | OEE as ... the “Hike”

# Questions?

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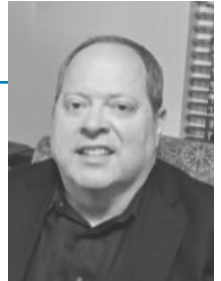


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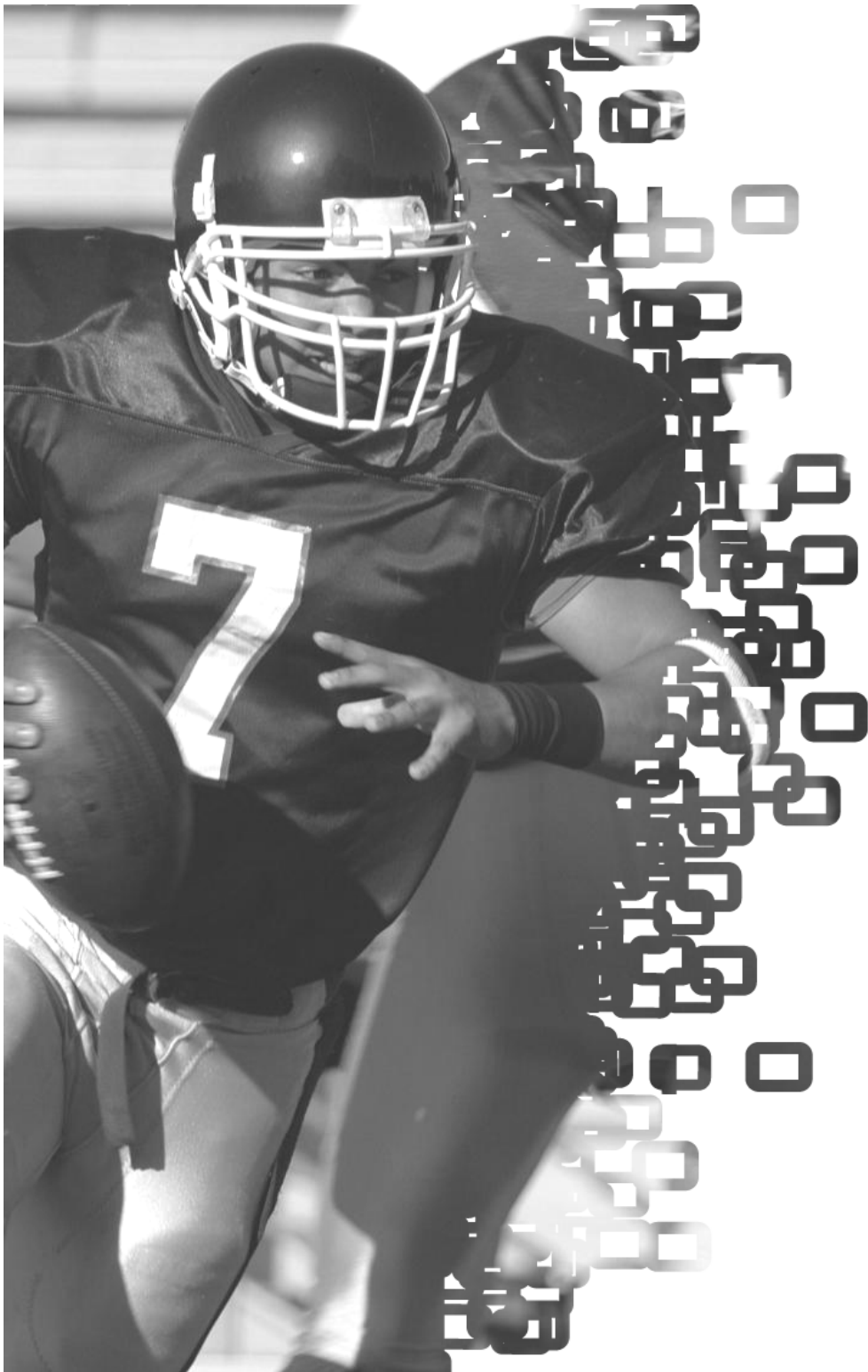
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**Thank you.**

**Are you ready to score  
with better OEE?**

**info@epicor.com**

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