ERP to HMI communication for increasing plant effectiveness

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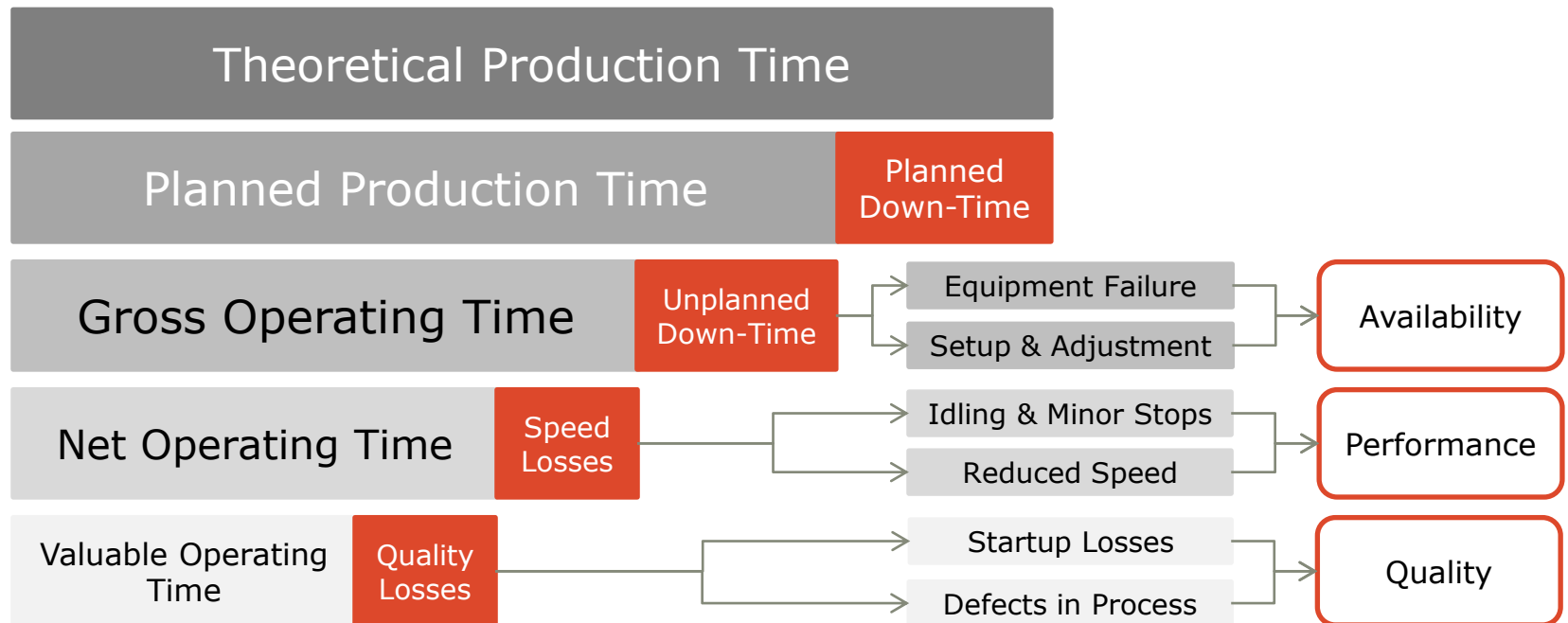do it your way

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Methodical approach of effectiveness improvement

OEE and the 6 big losses

Theoretical Production Time		

Planned Production Time	Planned Down-Time

Gross Operating Time	Unplanned Down-Time	→ Equipment Failure / Setup & Adjustment	→ Availability

Net Operating Time	Speed Losses	→ Idling & Minor Stops / Reduced Speed	→ Performance

Valuable Operating Time	Quality Losses	→ Startup Losses / Defects in Process	→ Quality

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Challenge

Help the machine operator to contribute to improved plant productivity

In order to improve OEE, it is necessary to reduce losses in productivity.

- Is the operator informed at the right time about the right actions he should take in order to reduce losses?

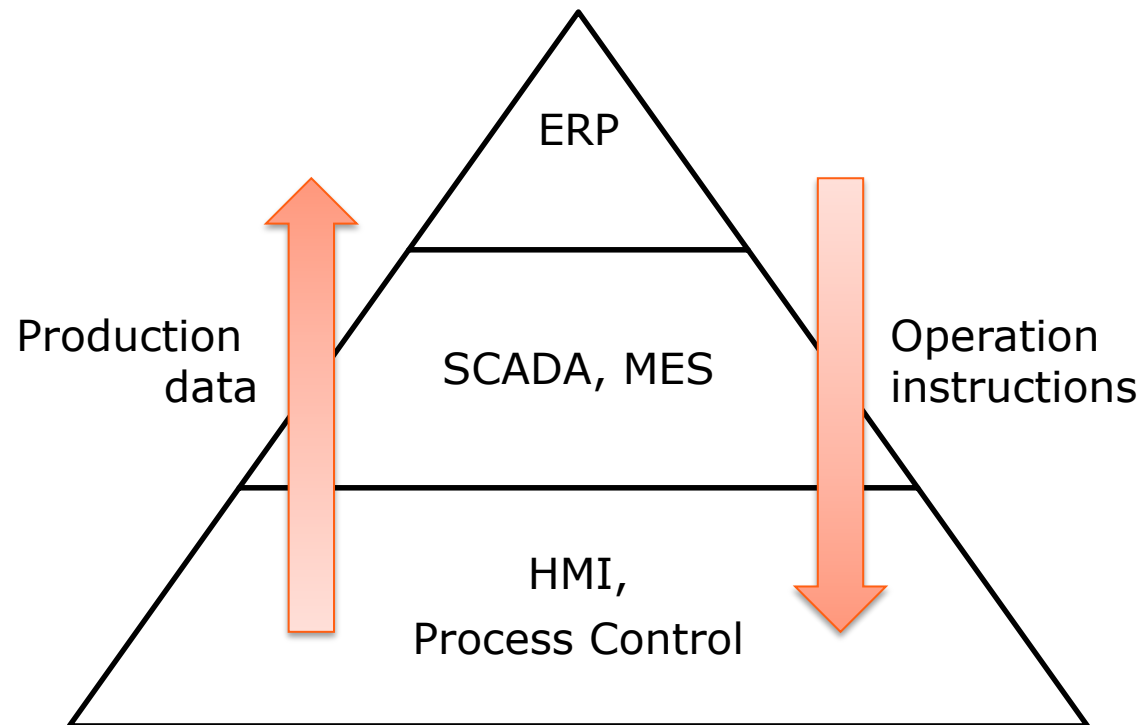- Is the HMI system properly integrated into the plant infrastructure?
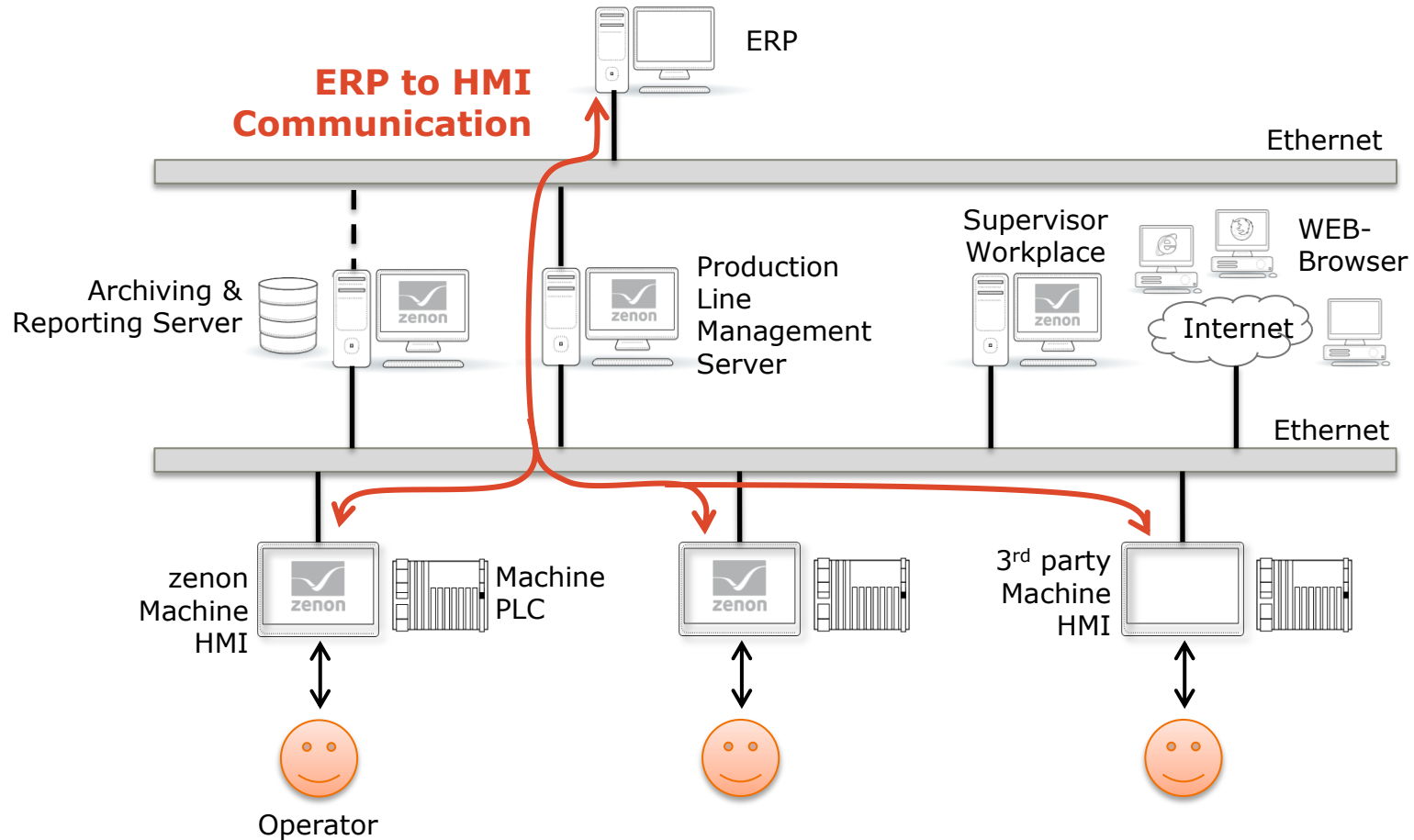
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Solution

Ensure the right communication flow across the automation pyramid

Production data

ERP

SCADA, MES

HMI,
Process Control

Operation instructions

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Typical solution architecture using zenon

ERP

ERP to HMI Communication

Ethernet

Archiving & Reporting Server

Production Line Management Server

Supervisor Workplace

WEB-Browser

Internet

Ethernet

zenon Machine HMI

Machine PLC

3rd party Machine HMI

Operator

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zenon technology enables ERP to HMI communication

- ✓ Network by mouse click

- ✓ Operating System versatility

- ✓ Hardware independence

- ✓ zenon Process Gateway

- ✓ SAP Certified Interface

- ✓ Recipe Management

- ✓ >300 communication protocols

SAP® Certified
Integration with SAP Applications

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1. A challenge for the production teams

2. Solution with zenon

3. Benefits

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The ERP to HMI communication

The machine operator is supported through:

- ✓ Key Performance Indicators

- ✓ batch changeover (current and next)

- ✓ product packaging/ labeling changeover

- ✓ material changes

- ✓ status of other machines

- ✓ planned downtime, e.g. maintenance

- ✓ Recipe Management for changeovers

    … and many other options

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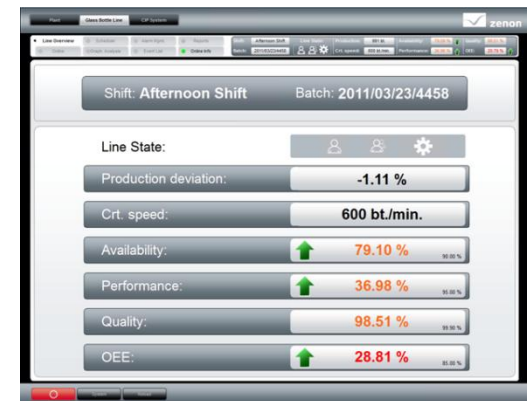
Main benefit: **OEE increase**

✓ optimize the time spent on setup & adjustments, e.g. changeover

✓ accurate machine parameter control

✓ decreased defects in process

✓ decreased start-up losses

✓ reduced machine downtime

✓ increased operator involvement in achieving business targets

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