Companies which have implemented MES...

- Can increase the efficiency of manufacturing operations
  - Reduce production lead time
  - Maintain low WIP/inventory level by efficient resource management
  - Reduce product defects and provides compliance rate

- Can prevent business risks
  - Reduce product liability risks
  - Increase credibility in meeting delivery time
  - Improve customer service

- Can increase profits
  - Reduce production related costs
  - Support optimized decision-making
  - Increase ROI

Sources:
- MESA (MES association)

We offer free consulting and an improvement plan to address your manufacturing related problems.
Let's build a Master Plan for implementing a Smart Factory together with Miracom.

Learn more about our Nexplant MESplus AE solution.

Contact: +82-2-2125-6800, mktg@miracom.co.kr

Miracom Nexplant MESplus AE is our MES solution for small and medium businesses providing product tracking, WIP/inventory management, process management, and data collection/analysis.

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Customized Solution for Small and Medium Businesses
- Quick-deployment and efficient operation through standardized S/W, H/W platform
- User-centric, convenient UI configuration, standardized screens for on-site worker provided
- Reporting function added to core MES functionality

Performance proven solution
- GS certification
- Used by more than 150 companies in seven countries
- Presidential Award (2002, 2010)
- Miracom has been introduced as a leading Best-of-Breed MES provider by Gartner

Easy system structure extension
- Industry-specific templates easily applicable at various manufacturing sites
- Built-in standardized production analysis report

Reflected industry know-how and customer requirements
- Industry-specific templates easily applicable at various manufacturing sites
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Performance proven solution
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MES Benefits

- Paper work reduced by 61% on average
- Loss of document work reduced by 50% on average
- Manufacturing cycle time shortened by 43%
- Lead time reduced by 27% on average
- Inventory reduced by 24% on average
- Defect rate reduced by 18% on average

Source: MESA (MES association)

Slim MES optimized for small and medium enterprises
- Only functions included that are essential for SMEs.
- Advanced standard processes and platform provided.
- Optimized decision-making supported through real-time production management.

Applicable for following companies
- Companies that want to innovate manufacturing productivity by applying SME standard processes and platforms
- Companies that want to optimize their solutions for their business by directly implementing / operating the system
- Companies that wants to expand their system stepwise after implementing key functions at first

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Miracom Inc
10F. Hyanggun Tower, 123, Olympic-ro 35-gil, Songpa-gu, Seoul, Korea
Tel: +82-2-2125-6800 Fax: +82-2-2125-6814 www.miracomglobal.com
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Why MES is needed?

What is MES (Manufacturing Execution System)?
MES is an integrated production management system that focuses on real-time monitoring, control, logistics, work history tracking, status monitoring, and defect management at the manufacturing site. Through MES, manufacturing companies can understand all the information on the production site in real-time, so that not only production processes are improved, but they can also make the best decision for manufacturing operation management.

Difficulties encountered by small and medium-sized manufacturing companies

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a way to lower costs and improve quality?</td>
<td>Many mistakes may arise by processing production management manually.</td>
</tr>
<tr>
<td>As competition gets more and more intense, is the market pressuring you to reduce production costs and improve quality?</td>
<td>Do you face the problem to find the root cause for any errors or to identify the reason why the production plan does not match with your performance?</td>
</tr>
<tr>
<td>I want to implement the system, but costs are too high.</td>
<td>Do you feel the need for investments in order to ensure company growth, but it is difficult because of the high costs?</td>
</tr>
<tr>
<td>Is it difficult to respond to data requirements in terms of production performance, deadlines compliance, and quality management?</td>
<td>By implementing MES, you can collect, monitor, and control data from the manufacturing site in real-time, resulting in improved yield and quality.</td>
</tr>
</tbody>
</table>

How does Nexplant MESplus AE change your manufacturing site?

Nexplant MESplus AE provides MES core functionalities collecting and monitoring all process data starting from material receipt up to shipment.

- Data synchronization of production planning and performance possible by connecting with ERP system
- Identification of errors occurring during production processes, real-time control of equipment utilization rate and production status possible through material tracking management

<table>
<thead>
<tr>
<th>Production Management</th>
<th>Materials Management</th>
<th>Equipment Management</th>
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<tr>
<td>Production Plan Upload</td>
<td>Material Income/ Transfer / Shipping</td>
<td>EQ Status Management</td>
</tr>
<tr>
<td>Production Progress Management, Production Status/View</td>
<td>Material Lot Status / History View</td>
<td>EQ Error / Repair Management</td>
</tr>
<tr>
<td>Manufacturing History Management</td>
<td>Lot Query per each Warehouse</td>
<td></td>
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</tbody>
</table>

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<tr>
<th>Master Data / System Module</th>
<th>Quality Management</th>
<th>SPC (Statistical Process Control)¹</th>
<th>System Management</th>
<th>Standard Analysis</th>
<th>Report</th>
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<tr>
<td>Alarm Management, Code Management</td>
<td>Process Quality</td>
<td>SPC Data based SPC Management</td>
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<td>System performance management</td>
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¹ SPC (Statistical Process Control)