In the conditions of frequently changing demands of the current market, the manufacturers would like to have a flexible production for timely manufacturing of product and for quality control to correspond all the up-to-date requirements.

Korean SMT Solutions company offers the solution for big enterprises manufacturing different products with large batches.

According to current tendency towards downsizing of components and, as a consequence, to lessening of pad size, it becomes necessary to control the quality of assembled product on all the stages.

This solution uses three quality control systems, one after each process step: 3D control system of solder paste application after screen stencil printer; optical inspection system of components placing correctness after pick-and-place systems, and soldering quality optical control of ready product after reflow oven. Information on each product goes to the common database; that enables tracking the product on each assembly stage and responding to errors during assembly timely (the operator's monitor displays picture of PCB part from three system simultaneously).

The line contains the most up-to-date pick-and-place systems for SMD components from 01005 up to 55 x 55 mm and 15mm height with speed up to 186,000 CPH.

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**Line specification**

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCB loader to line</td>
<td>SJ Inno tech</td>
</tr>
<tr>
<td>Solder paste screen printer</td>
<td>SJ Inno tech</td>
</tr>
<tr>
<td>Solder Paste Inspection</td>
<td>Mirtec</td>
</tr>
<tr>
<td>Sorting conveyor</td>
<td>SJ Inno tech</td>
</tr>
<tr>
<td>SMD pick-and place system 1</td>
<td>Hanwha</td>
</tr>
<tr>
<td>SMD pick-and place system 2</td>
<td>Hanwha</td>
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<tr>
<td>SMD pick-and place system 3</td>
<td>Hanwha</td>
</tr>
<tr>
<td>Optical inspection system</td>
<td>Mirtec</td>
</tr>
<tr>
<td>Visual check work table</td>
<td>SJ Inno tech</td>
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<tr>
<td>Solder paste reflow oven</td>
<td>TSM</td>
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<td>Optical inspection system</td>
<td>Mirtec</td>
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<tr>
<td>PCBs NG buffer</td>
<td>SJ Inno tech</td>
</tr>
<tr>
<td>PCB unloader from line</td>
<td>SJ Inno tech</td>
</tr>
</tbody>
</table>

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* The above production speed is based on the optimum. It differs depending on the customers' production environment. For a more detailed line configuration, please contact our sales team.
Options list:

For SMD pick-and-place system:

- Feeder docking cart for quick changeover to a new product
- Offline programming software for faster creation of programs
- System of barcode reading from component reels for convenient work of electronic warehouse
- Electric reel tape feeders for tape 8 – 88 mm
- Smart feeder for auto loading/splicing SMD reels
- Stick feeder for 4 sticks for SOP, SOJ, QFP, PLCC, connector, etc
- Label Feeder for QR and Barcode stickers
- Manual tray feeder for IC in JEDEC pallets
- Automatic tray feeder up to 48 JEDEC pallets with Non stop production changeover
- Flux Dipping Unit
- Software for remote monitoring and statistics collection from the line in online mode

For solder paste printer:

- Pneumatic support pins
- Automatic adding of solder paste
- Microclimate support system

For solder paste reflow oven:

- Built-in nitrogen generator
- Additional flux management system
- Thermal profiler to control temperature at PCB surface
- Possibility to combine chain and mesh conveyors for simultaneous work with PCBs of different width

Line specification:

- PCB size: from 50 x 40 mm up to 610 x 460 mm
- Speed (Optimum*): 186,000 CPH for chip components
- Components: from 01005 up to 55 x 55 mm (or 55 x 75 mm for oblong components), max. height of component 15 mm
- Quantity of 8 mm feeders: 360 ea.
- Component placing precision: ± 30 µm (at 3 σ)
- Solder paste application control: 3D system
- 3D Optical inspection system with side view cameras
- Oven: 13 heating zones, 2 cooling

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