Enabling energy savings by visualization, recognition, and optimization of thermoelectric utilization. Providing total engineering from installation of energy-saving equipment and facilities to cloud utilization.

We have standardized the expertise that we developed for the smartization of our own factories as an energy management system. This is a solution that achieves optimal control of energy supply and demand.

【Benefits】
☑ Smartization of facilities by an integrated analysis environment for energy information and manufacturing management information
☑ Reduction of total energy costs by optimal operation of thermoelectric supply facilities
☑ In addition to EMS, maximization of operating efficiency over the service life cycle of the facilities by monitoring of facility operations, management of maintenance, and analysis of fault symptoms

【System configuration】
A range of services from on-premises to cloud-based

EMS software
- Centralized monitoring
- Manufacturing execution system (MES)
- Energy analysis
- Linkage (Detailed analysis) [High-efficiency operation]
- Optimal control of supply and demand

Cloud-based total facility management services
- Equipment management
- Maintenance management
- EMS

Internet

In-company LAN

Edge controllers
- RTSAE
- MICREX-SX

Various sensors

Utility equipment
- Cogeneration
- Substation equipment
- Fuel cells
- Heat pumps
- HV/MV inverters

Production facilities
- Production lines
- Low-voltage inverters
- Motors
### [EMS total facility management product group]

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>Overview</th>
<th>Cloud-based service</th>
<th>On-premises service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Centralized energy monitoring MICREX-ViEw PARTNER</td>
<td>(1) Understanding the situation by energy measurement (2) Real-time integrated monitoring of energy equipment</td>
<td>☐</td>
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</tr>
<tr>
<td>2</td>
<td>Energy analysis support MainGATE / PPA EnergyGATE</td>
<td>(1) Understanding trends from long-term storage of energy usage data (2) Analysis support environment for the stored data enables understanding of waste and irregularities, and points for improvement (3) Detailed analysis environment through linkage with manufacturing information</td>
<td>☒</td>
<td>☐</td>
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<tr>
<td>3</td>
<td>Support for energy saving optimization MainGATE / PPA with DD</td>
<td>(1) ISO 50006-compliant efficiency analysis environment (2) Automatic diagnostic functions using AI and analysis technologies (3) Dashboard sharing of energy and manufacturing information</td>
<td>☒</td>
<td>☒</td>
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<tr>
<td>4</td>
<td>Optimal control of energy supply and demand FeTOP</td>
<td>(1) Demand forecasting based on energy consumption models and supply and demand planning (2) Real-time control feedback based on status of supply and demand</td>
<td>☒</td>
<td>☒</td>
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<tr>
<td>5</td>
<td>Equipment maintenance management MaintenanceStation</td>
<td>(1) Maintenance management functions such as equipment ledgers, parts management, inspection management (2) Creation of maintenance knowledge bases by accumulating trouble information</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>6</td>
<td>Abnormality symptom monitoring MainGATE / MSPC</td>
<td>(1) Automatic diagnosis and analysis support for analysis of abnormalities such as equipment deterioration and abnormality symptoms using AI and analysis technologies</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>7</td>
<td>Manufacturing execution system (MES) MainGATE-Process</td>
<td>(1) Flexible construction environment using modularized MES function groups and engineering tools (2) Analysis environment and traceability functions for manufacturing information</td>
<td>☒</td>
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</tr>
<tr>
<td>8</td>
<td>Edge controller MICREX-SX FITSAS</td>
<td>(1) Connection to field devices enables data collection and control (2) Plug-in connection with host servers (3) Compatible with communication protocols of a wide variety of field devices</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

### Industry-specific EMS solutions

We propose optimal EMS solution proposals for our customers based on our track record of achievements.

#### Lineup of industry-specific EMS solutions

- EMS solution for semiconductor industry
- EMS solution for assembly industry
- EMS solution for buildings and facilities
- EMS solution for food industry
- EMS solution for steel industry