The Data Maturity Journey
The Path to a Successful Industry 4.0 Architecture

Industrial DataOps
The Missing Link for Industry 4.0

Processes
- Data contracts
- Data governance
- Semantic data definitions
- Information and systems architecture

Technology
- Edge computing
- Data integration hubs
- Unified namespace
- Data modelers
- Open standards

People
- Data engineers
- Systems architects
- Enterprise information architects

DataOps (data operations) is the orchestration of people, processes, and technology to securely deliver trusted, ready-to-use data to all who require it.

Industrial DataOps solutions are needed in manufacturing environments where data must be aggregated from industrial automation assets and systems and then leveraged by business users throughout the company and its supply chain.

Industrial DataOps Maturity Model

<table>
<thead>
<tr>
<th>Data Access</th>
<th>Data Context</th>
<th>Site</th>
<th>Enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open protocols</td>
<td>Payloads include descriptions, locations, etc.</td>
<td>Standard models</td>
<td>Data governance</td>
</tr>
<tr>
<td>Discrete values</td>
<td>Normalized values</td>
<td>Multiple sources combined</td>
<td>Synchronized data across sites with disparate systems</td>
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<tr>
<td></td>
<td>Type conformance</td>
<td>Filtering, event</td>
<td></td>
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<td></td>
<td></td>
<td>Use case focused payloads</td>
<td></td>
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<tr>
<td>Tag data to the Cloud</td>
<td>Simple structures</td>
<td>Site-wide unified namespace (UNS)</td>
<td>Enterprise-wide UNS</td>
</tr>
<tr>
<td>Operational Technology (OT)</td>
<td>OT prepares data for IT</td>
<td>Use at the Edge</td>
<td>Cloud-to-Edge</td>
</tr>
<tr>
<td>hands off to IT</td>
<td>Data engineers</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>OT collaborates with IT</td>
<td>Strong collaboration between OT, IT, and Digital Transformation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Systems architects</td>
<td>Enterprise information architects</td>
</tr>
</tbody>
</table>

Team
- Business analytics
- “Real-time” execution
- Multi-site visibility and comparisons
- Brownfield onboarding without replacement

Benefits
- Usable by OT for controls
- Usable for OT analytics
- Business analytics
- “Real-time” execution
- Multi-site visibility and comparisons
- Brownfield onboarding without replacement
Your Industrial Data Maturity Journey

As companies adopted Industry 4.0 technologies, they often began with lofty visions but very basic initial projects. Many found their initial project was successful but follow-on projects stalled and failed to scale. Their data infrastructure could not support the increasing complexity.

Where are you on your industrial data journey? Where do you want to go? Use the radar chart on this page to plot your own progress and prepare for the road ahead.

Next Steps

- Visit highbyte.com to learn more about HighByte Intelligence Hub, an Industrial DataOps solution designed to help you model and manage plant floor data at the Edge without writing or maintaining code.
- Email sales@highbyte.com to schedule a demo and join the free trial program.