



Process Automation & Data Management - Unlocking your Business Potential

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Agenda

Industry Challenges

Process Automation Future

The Future is Here

It is estimated that 40 exabytes (4.0×10^{19})
of unique new information
will be generated worldwide this year.



More than in the previous 5000 years combined

Industry Challenges

- **Data overload**
- Skilled worker shortages
- High technology churn in open systems
- Safety and security concerns
- High energy and commodity costs
- Increasing regulations
- Environmental concerns

Fewer skilled people must respond faster, handle more complex processes, make better decisions, with bigger consequences across the global enterprise...

...as we address these trends, we create more data to manage...

Technology Trends Help Address Industry Challenges

- 1. Novel Sensors:** More and more sensors to collect the right data across the entire plant and enterprise
- 2. Wireless as an Enabler:** Cost-effectively bring in targeted data and push out the right information to a mobile worker
- 3. Converge IT and Process Control:** Link data across the global enterprise and manage with proven IT technologies
- 4. Go Beyond the Plant Boundaries:** Manage data at an enterprise level for enterprise-wide optimization and reliability

1. Novel Sensors

Miniaturization

- MEMs and smart dust
- Analyzers on a chip



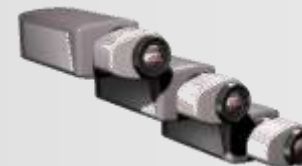
Mobility

- Wearable sensors for fire and gas detection, location, etc.
- GPS tracking for equipment and people location
- Flying sensors – security, leak detection

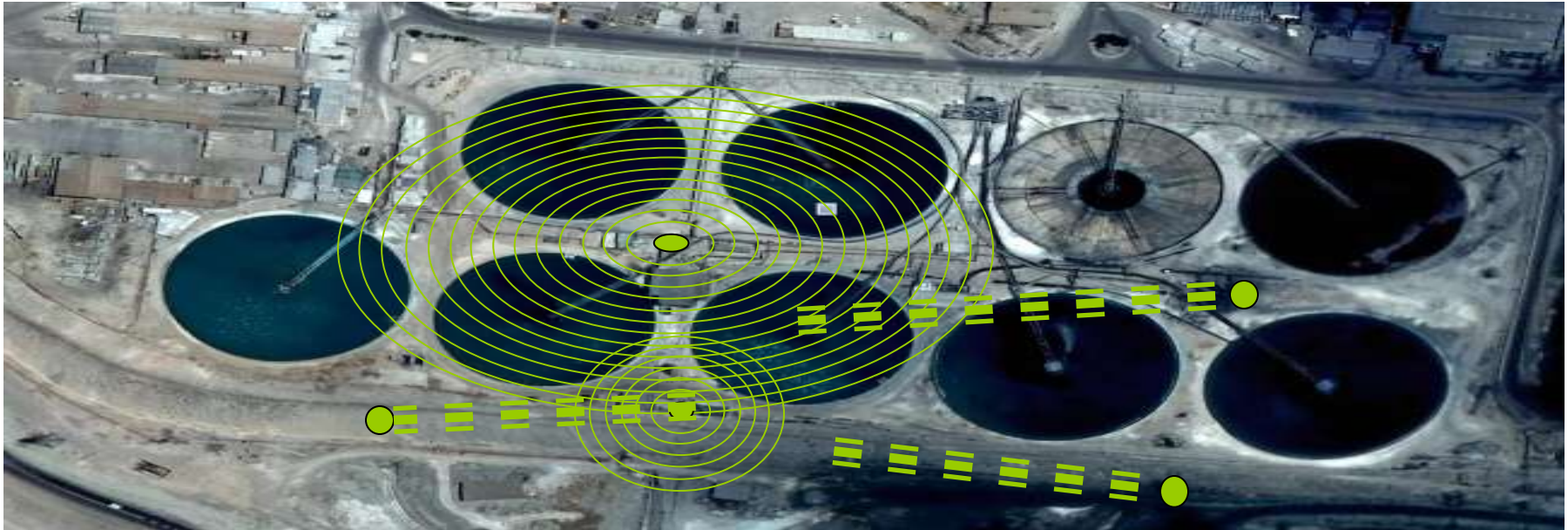


- **New Sensor Types**

- Video
- Acoustic
- Embedded sensors



2. Wireless is a Cost-Effective Enabler



- **Cost effective field network for equipment health monitoring**
- **Significant improvement in mobile worker efficiency & collaboration**
- **Allow more sensing technologies in more places**
- **Extend the control network to remote locations**

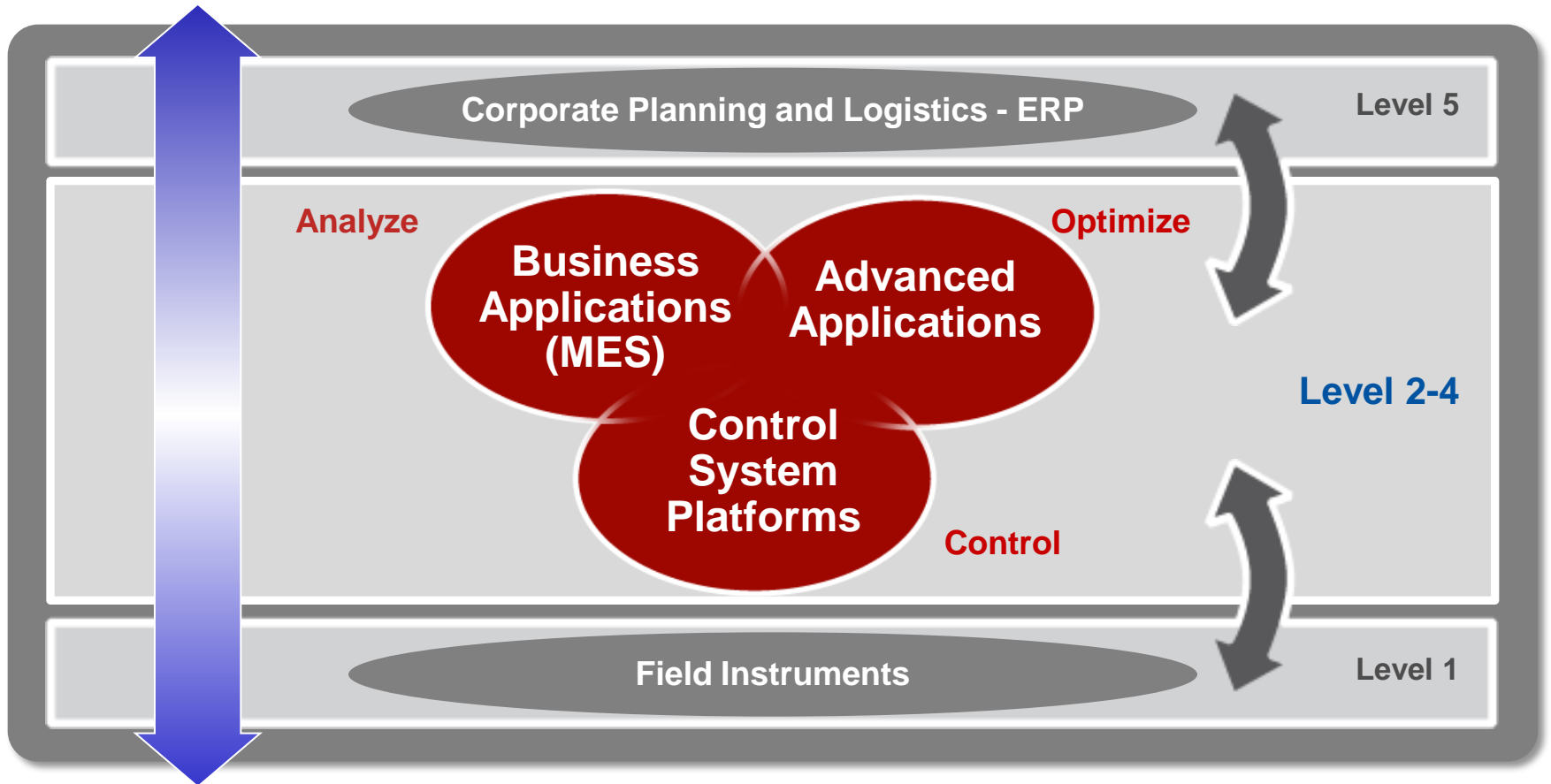
Extending the Control Room to the Field

3. Converge IT and Process Control

- **Open systems** are here – need to centrally manage more effectively with shrinking workforce
- **Cloud computing** infrastructure to collect and process data through central locations
- **Unify Automation Layers** leverage information and data from the field, to the control room, to the executive suite
 - Aggregate data to the right person

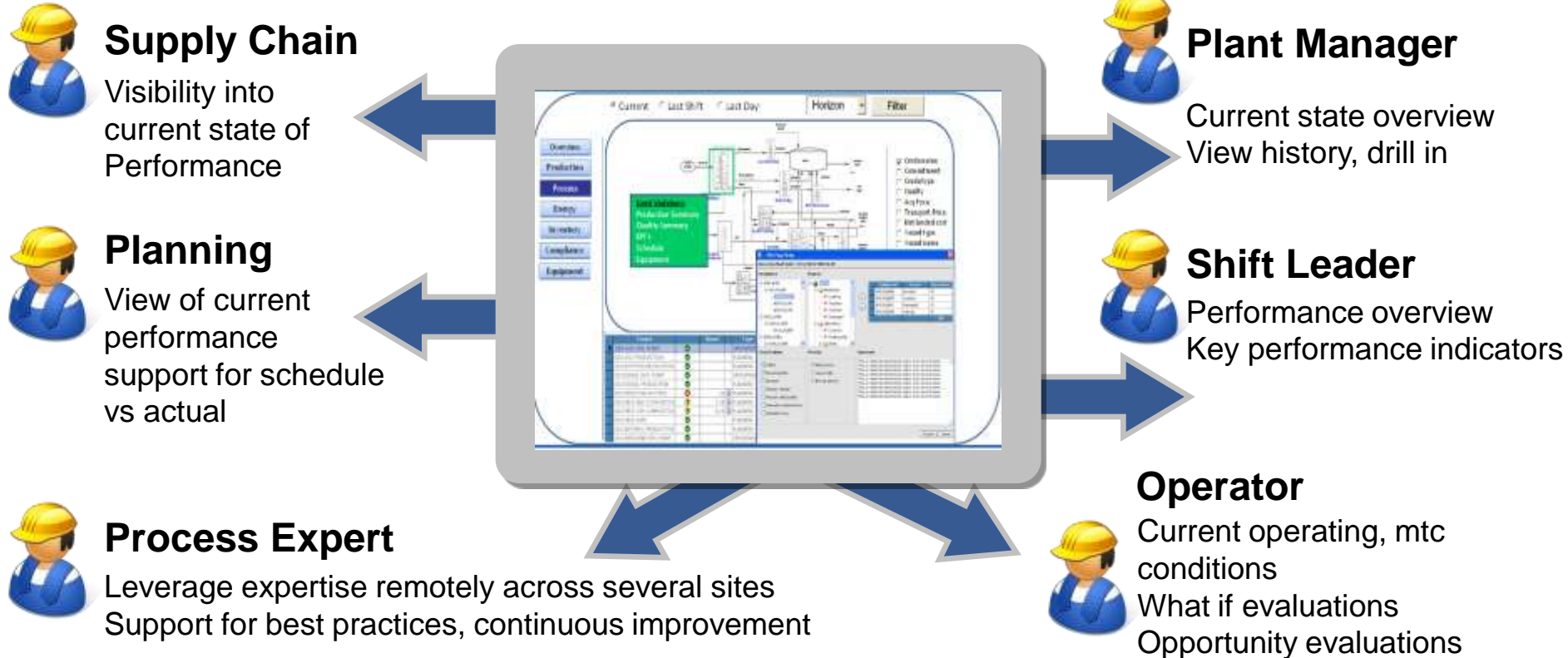
Unify Automation Layers

Demand variability



Raw material variability

Aggregate Data and Deliver to Right Person



Data -> knowledge -> the right person -> decision-making

Process Automation Future is Here !

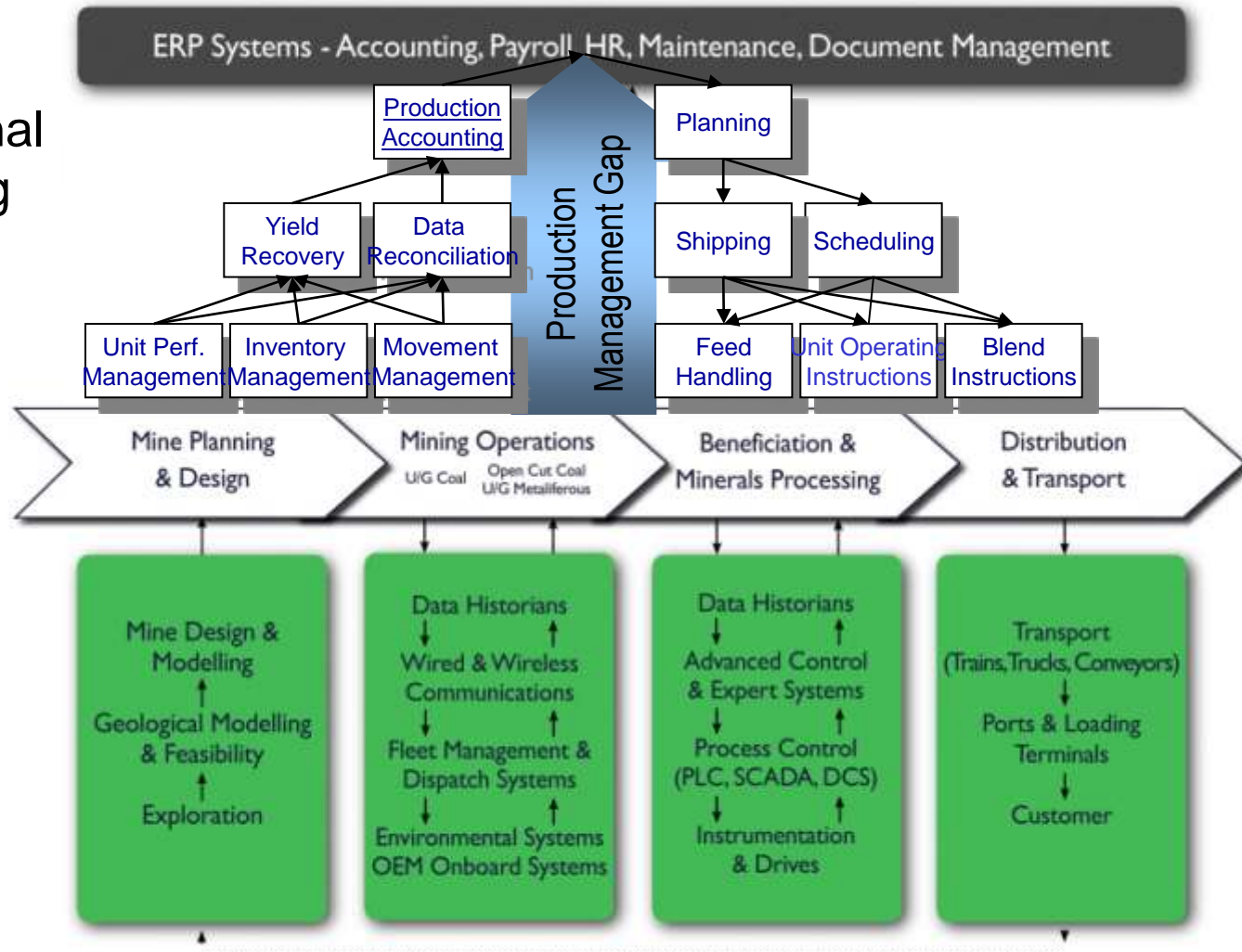
1. **Ubiquitous Sensors:** Collect the right data across the entire plant and enterprise
2. **Wireless as an Enabler:** Cost-effectively bring in targeted data and push out the right information to the right person
3. **Converge IT and Process Control:** Link data across the global enterprise and manage with proven IT technologies



Go Beyond the Plant Boundaries: Manage data at an enterprise level for enterprise-wide optimization and reliability

Achieving Operational Excellence in mining

Deliver the right information to the right people at the right time to improve decision making



Courtesy of Matrikon Inc, A Honeywell PKS Partner

Thank you !