Optimizing Plant Operations through Analytics

driving asset performance through data, information, and understanding

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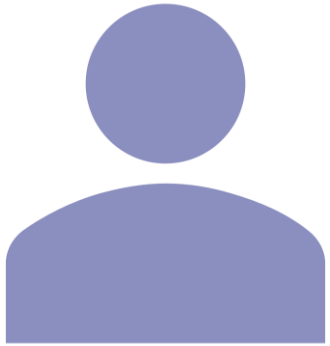
Chevron Phillips Chemical

Performance by design.
Caring by choice.℠

Nice to Meet You!



Who Am I?

Why should you listen to me?

Definitions and Terms

Optimizing

Plant Operations

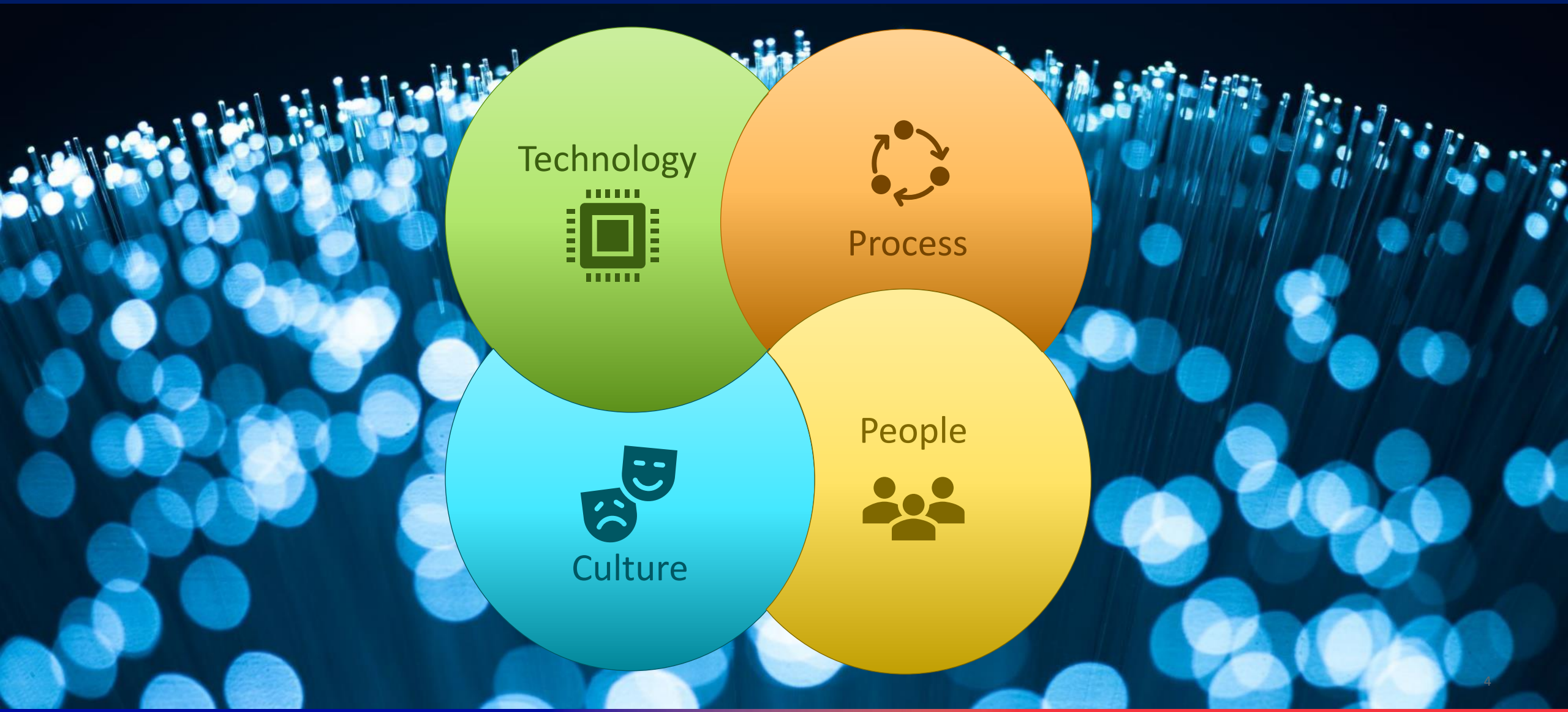
Data & Analytics

Asset

Performance

Components of the Opportunity

These components must come together to effectively optimize operations with analytics.



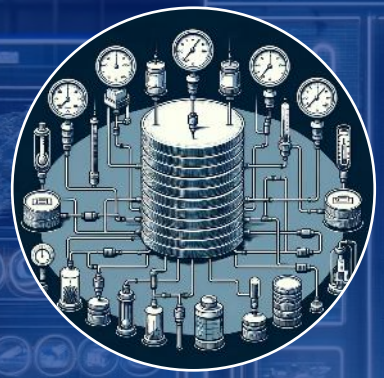
Technology

Despite the complexity, the technology is almost always the easy part.

Adequate Instrumentation

You'd be surprised at what you don't have.

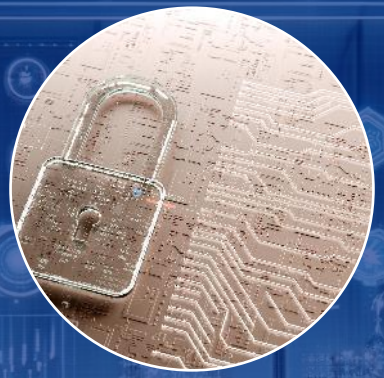
Many plants, especially older ones, may not have instrumentation tied to networks that could track critical information to the process.



Data Collection Mechanisms

Track what you measure at the right intervals and store it in a system designed for it.

Plant data can be multi-faceted: operational time-series, laboratory, maintenance histories, etc.



Access to the Data

How do you connect, serve, and secure the data?

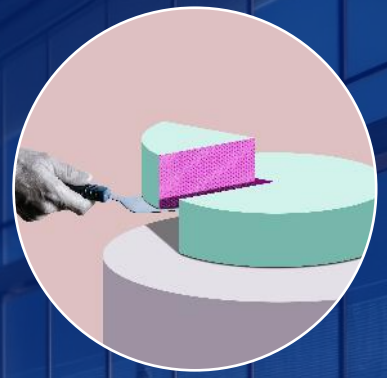
This is a matter of both architecture and security. You must have a platform that can serve the data in a scalable way, a security model that protects, and an easy way to request and provision access.

Contextualizing Meta-Data

Data about the data about the data… :)

Metadata helps engineers and analysts properly interpret what they see.

These could be easy access to design documents, P&IDs, asset hierarchies from various perspectives, good tag descriptions, among others.



Self-Service Analytics Tooling

Not all tooling is equal. You need tooling that can release the creativity in your data-literate workforce.

Without this, the data can do nothing.

Process

Process is the engine that delivers the results.

Vision and North Star

- Where are you going? What will you accomplish? How will you measure that?

Strategy

- What are the most important goals to your organization? What must you protect?

Project Management and Backlog

- What goals will you work next? How will you plan and execute?

Data Quality

- Analytics is worthless without good data. How do you ensure quality?

Governance

- Who owns the data? Who owns the analytics? How do you keep tabs on what's been done?

People

Nothing gets done without a talent that is capable, creative, commissioned, and committed.

Identify Talent and Advocates

- Find the competent people who want to go where you want to go.

Build Data Literacy

- Working with data requires knowledge about its generation, storage, context, structure, and analysis.

Upskill and Train

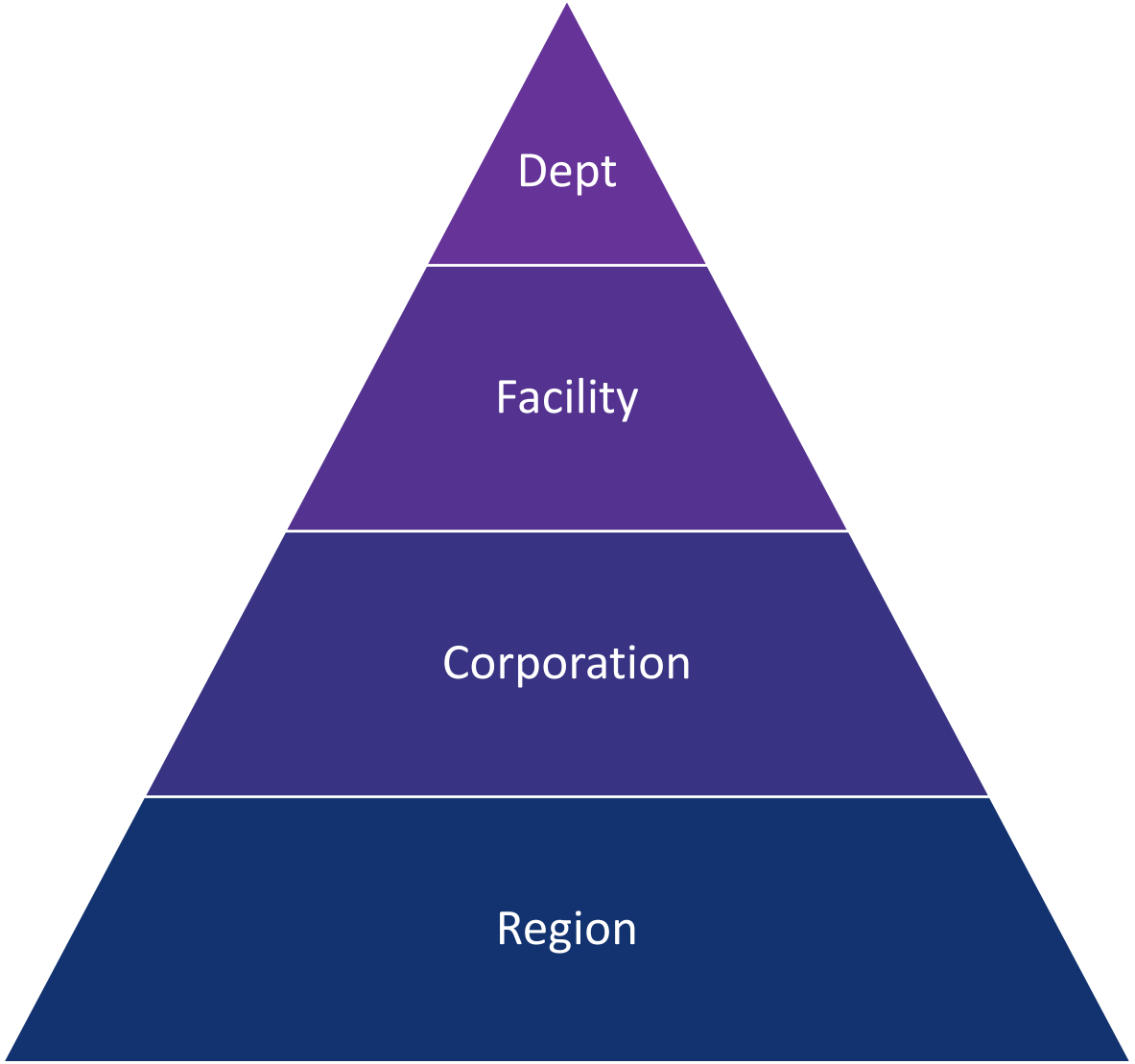
- Encouraging talent to upskill shows your willingness to invest in them and your commitment to the cause.

Empower and Challenge Them

- Give them a mandate to go forth and conquer. Remove political blocks and commit resources to the endeavor.

Culture

"Culture eats strategy for breakfast." – Attributed to Peter Drucker



- Values
- Communication Modes and Styles
- Levels of Trust
- Risk Tolerance
- Leadership
- Workload

Closing Remarks

People Before Technology

Process Before Product

Nail it Then Scale It

Know the Cultural Context