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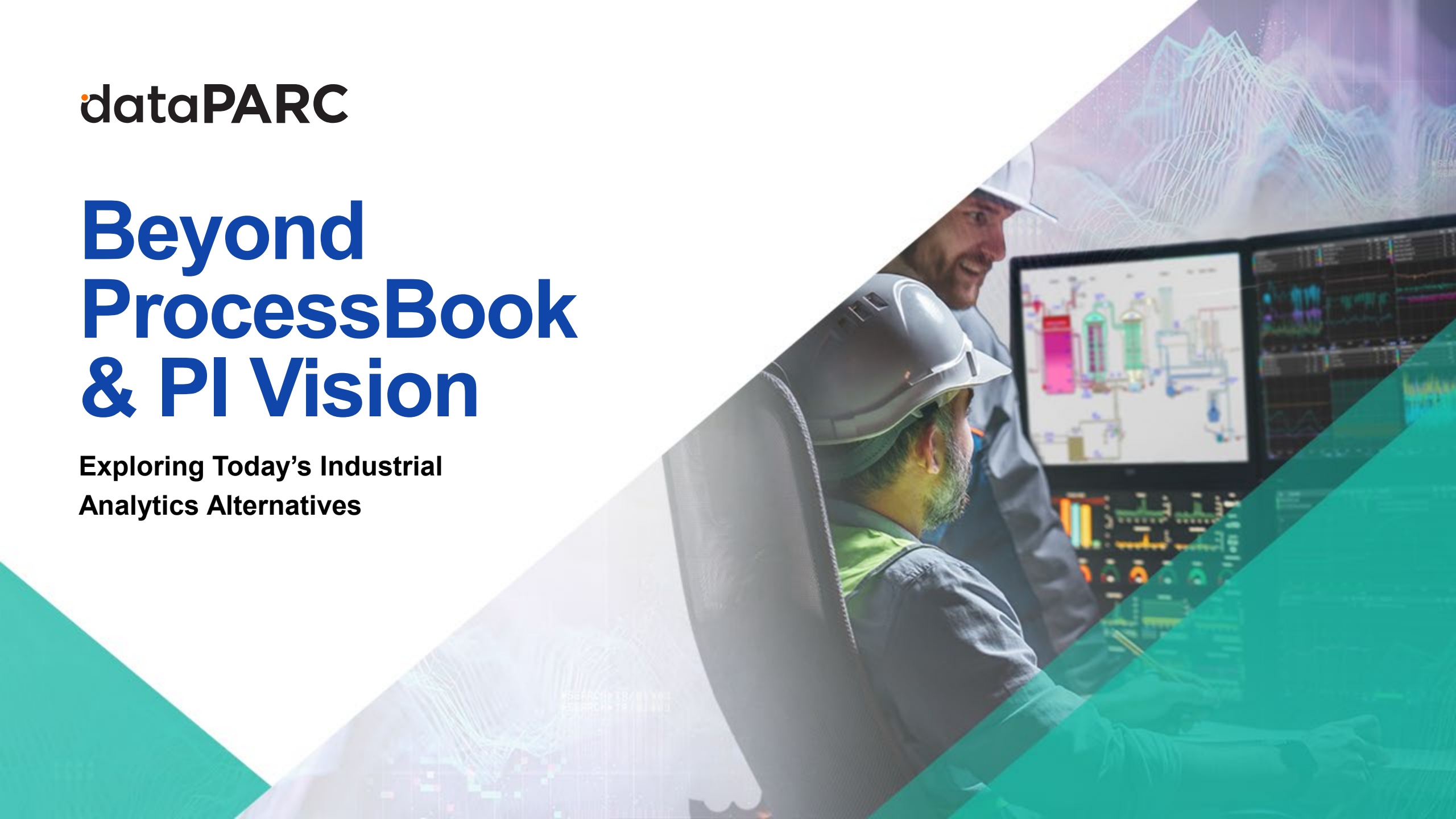
Beyond ProcessBook & PI Vision

Exploring Today's Industrial Analytics Alternatives



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Today's Presenters

Kevin Jones

Director Sales & Marketing
dataPARC

Adam Cooper

Senior Sales Engineer
dataPARC

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Agenda

Part 1 (For Everyone): Industrial Analytics

- Background
- Value
- Overview of the marketplace

Part 2 (For those investigating alternatives to PI)

- Role of ProcessBook/PI Vision vs newer AI/ML applications
- Evaluation criteria & considerations
- dataPARC's approach
- Migration strategy

Q&A

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Exploring Today's Industrial Analytics Alternatives

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ProcessBook End-of-Life Dilemma

~1995 ProcessBook Released

2020 OSI Announces ProcessBook Retirement

- 12/31/2021 – End of sale
- 12/31/2022 – End of security updates
- **12/31/2024 – End of support**

Thousands of users, Tens of Thousands of displays...What's the alternative?

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Customer Situations

1. Current ProcessBook users still deciding on their alternative
2. ProcessBook users that switched to Vision & looking again at alternatives
3. Customers looking at PI for initial investment & wondering about alternatives

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1980	1997	2023
Development of historians and **plant** information systems	Founded by a group of chemical engineers with decades of plant operations experience	1000+ Customers

Approximately 1000 sites using dataPARC worldwide

Headquarters in Washougal, WA

Part of the Voith Group

Focus on Real-Time Visualization, Analytics & Monitoring

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Integration Experience

- Ease of Integration – dataPARC was **originally** designed to leverage the PI Historian
- Highly Optimized Drivers for PI Historian
- Improved Query Speed
- **15 years** of experience in conversion tools For ProcessBook, Vision & Datalink Reports
- Empower Your People

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Industrial Analytics

Why & Who

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Industrial Analytics (why)

- Enhance operational efficiency
- Improve decision-making
- Stay competitive

Organizations need to run better with fewer people

Industrial Analytics allow every employee to become a better decision-maker, faster

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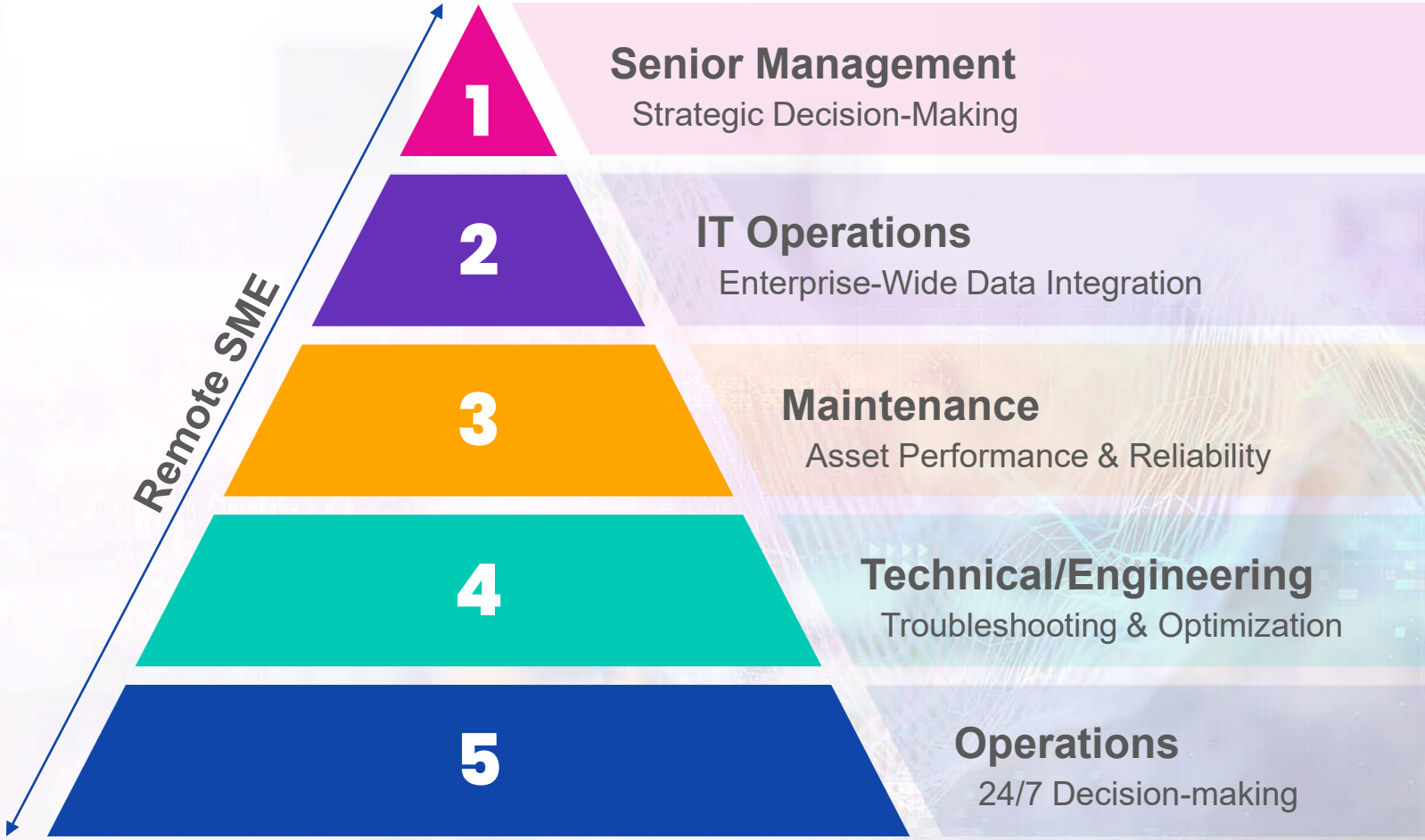
Industrial Analytics (who)

- **Operations** – Make every operator your best operator
- **Technical** – Troubleshoot, optimize and subject matter expertise
- **Maintenance** – Asset performance & reliability
- **IT** – Admin, Security, Data Ops
- **Senior Management**
- **Remote SME** (Spans all levels)



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What are my Options?

Exploring the industrial analytics landscape

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Manufacturing Technologies in 2023

Image: IOT Analytics

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Industrial Analytics Generations

- Gen 1
- "Actionable Insights"
- Consolidate operational data
- Trusted tools
- Born out of OT

Gen 1

- **dataPARC**
- **ABB**
  - 800xA
- **AspenTech**
  - InfoPlus
- **AVEVA/OSIsoft**
  - PI System
  - InStep
- **Emerson**
  - DeltaV
- **GE**
  - Proficy
  - Csense
- **Honeywell**
  - PHD & Uniformance
- **Mitsubishi**
  - Iconics
- **Rockwell**
  - Incuity (VantagePoint)
- **Siemens**
  - XHQ
- **Yokogowa**
  - ExaQuantum

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Industrial Analytics Generations

- Gen 2
- "Advanced Analytics"
- Leverage existing data repositories
- Focus on advanced users
- VC enthusiasm

Gen 2

- **Braincube**
- **Falkonry**
- **Seeq**
- **Trendminer**
- **Cognite**
- **SightMachine**
- **Element Analytics**
- **Etc.**

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Industrial Analytics Generations

- Gen 3
- "AI/ML algorithms"
- Reduce user involvement
- Predict outcomes & recommend actions
- Vertically-focused
- Black box, white box, "trust"
- IT experience, applied to OT

Gen 3

- **ControlRooms AI**
- **Augury**
- **Palantir Foundry**
- **Symphony.ai**
- **Raven.ai**
- **Twinthread**
- **Canvas.ai**
- **Etc.**

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Generations by Capability Pillar

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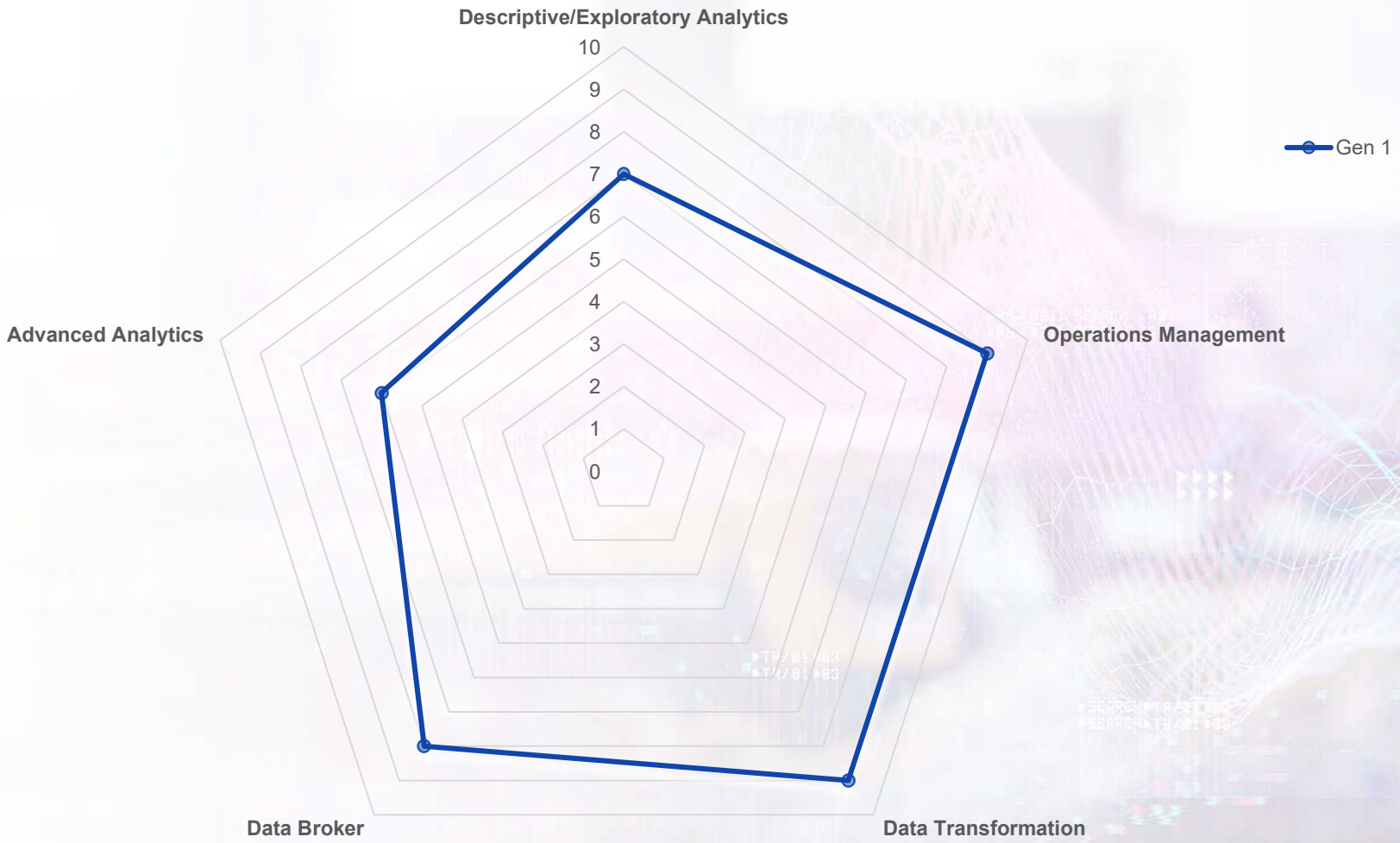
Generations by Capability Pillar



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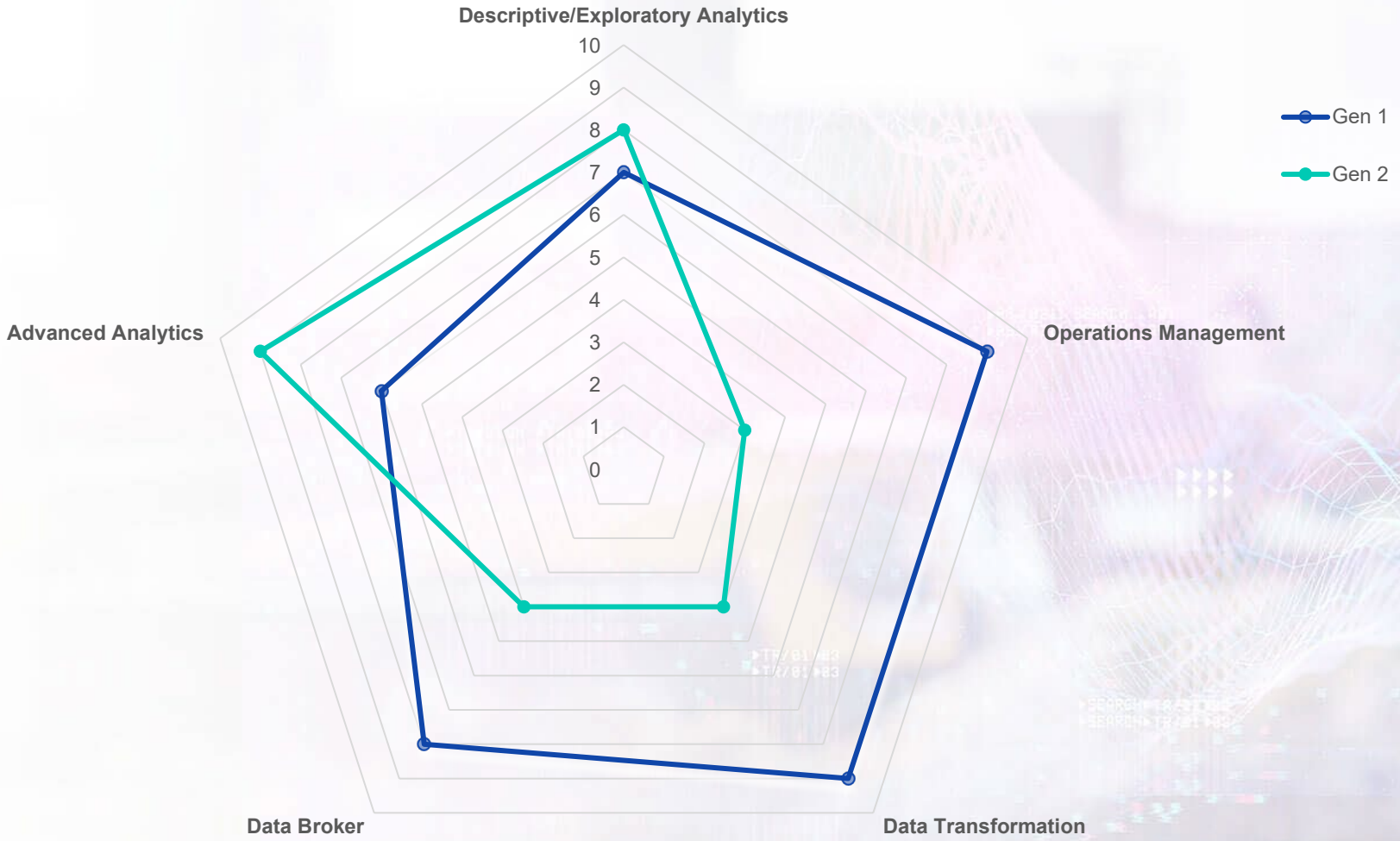
Generations by Capability Pillar



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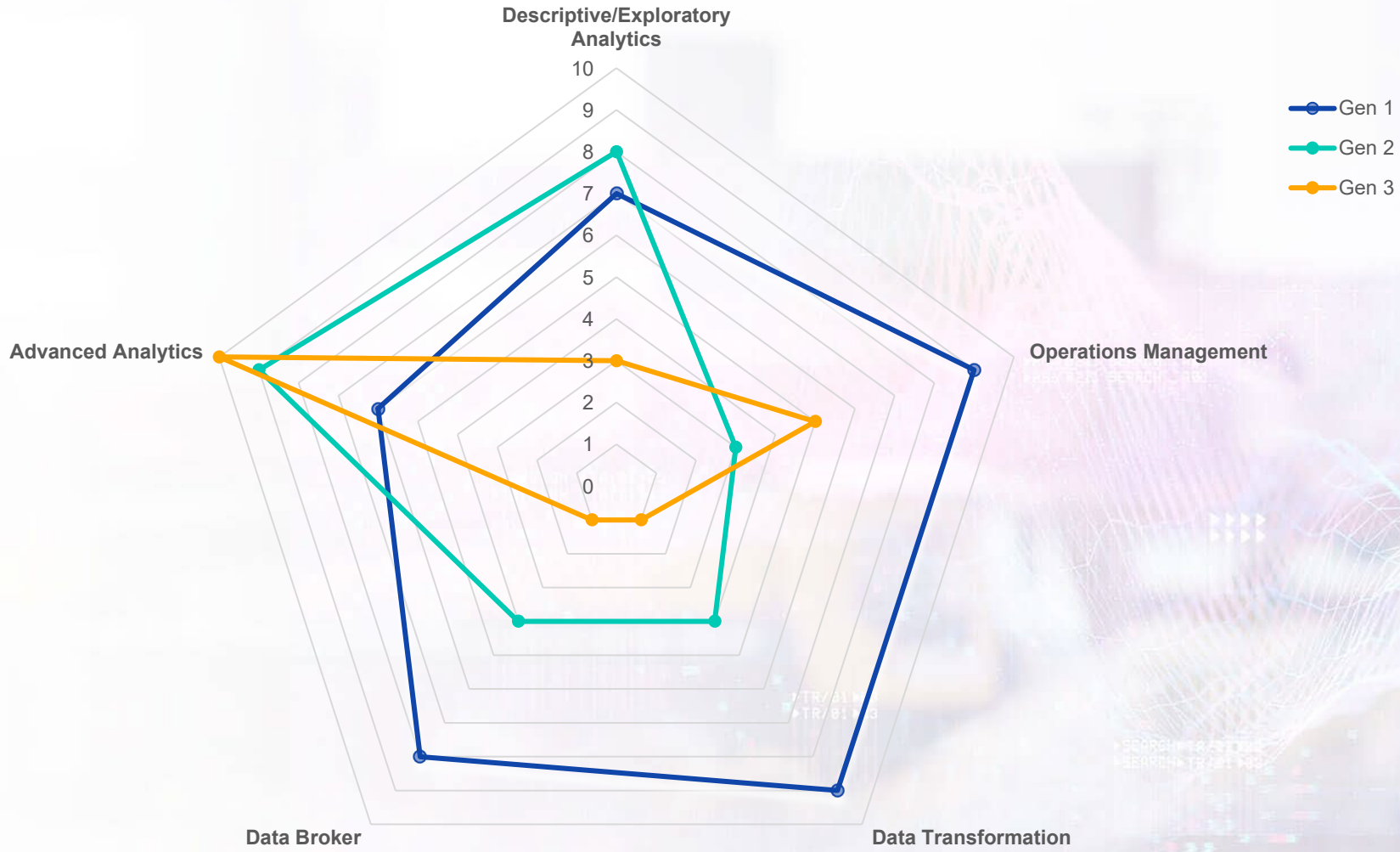
Generations by Capability Pillar



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Alternatives & Considerations

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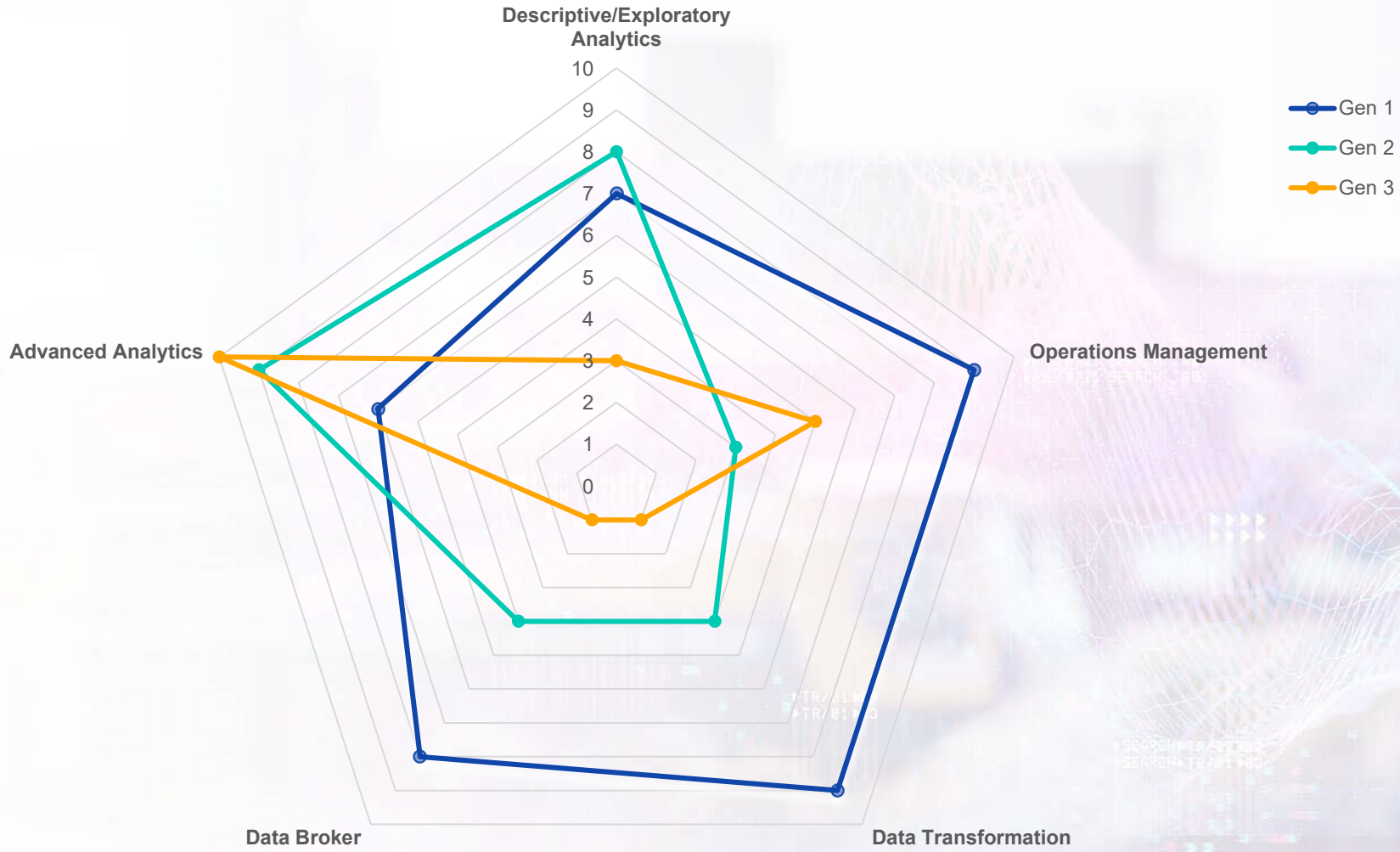
Which Generation should I consider?



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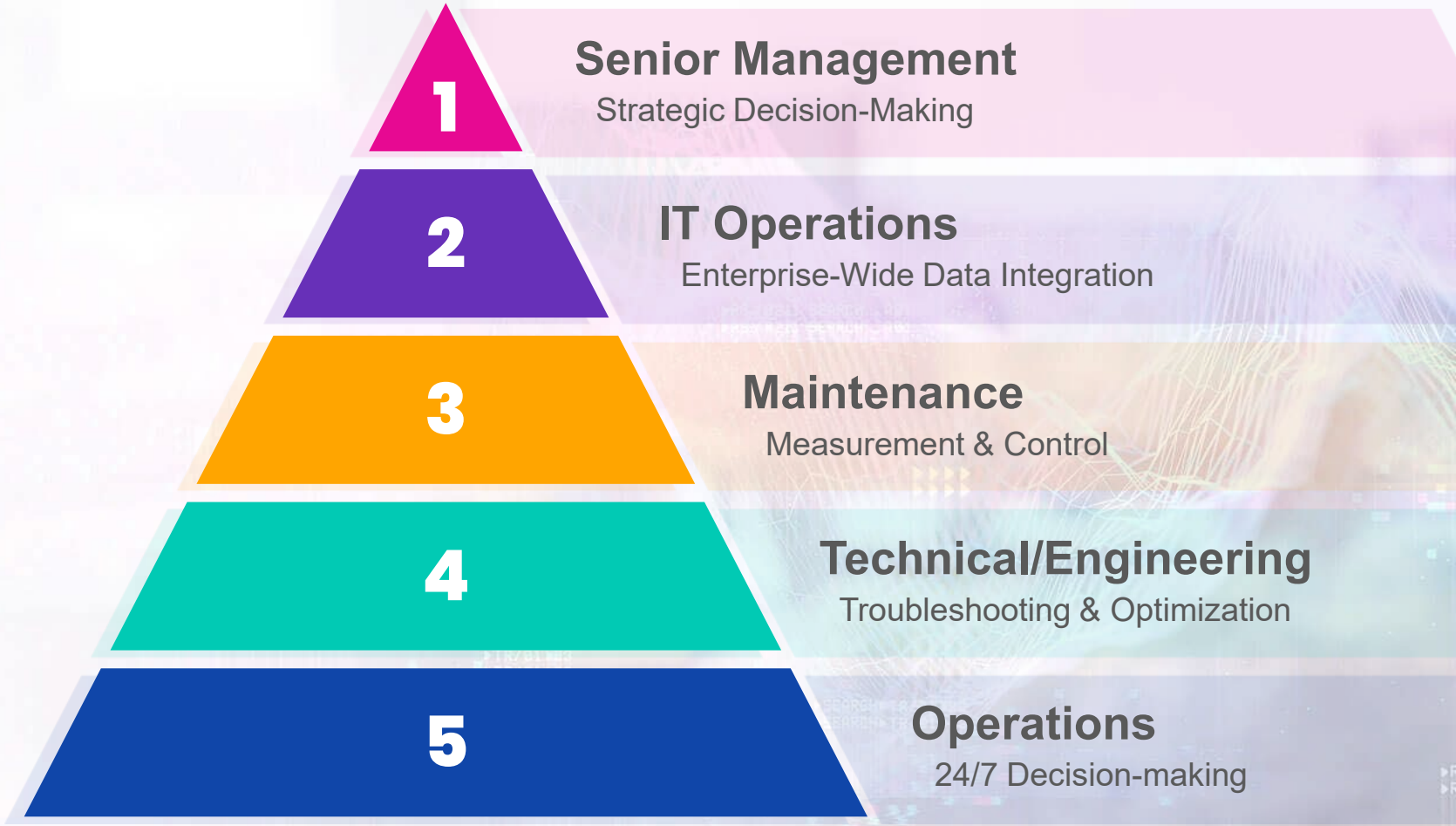
Additional Considerations

Users

- Seamless across organization?
- Deliver a single version of the truth?



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Additional Considerations

Ease of Integration

- Native integrations to historians?

Migration

- Migration utility/script to port over ProcessBook/Vision displays?
  - Is there a way to preserve existing displays
  - If not, what would it take to rebuild?
- Can you migrate expressions/calculations?
- How much experience does vendor have with migrations?

Training

- What is the effort?

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Additional Considerations

Cost/Pricing

- Pricing model
- Per user?
- Plant & enterprise-wide adoption
- Long-term view

dataPARC's Approach to Industrial Analytics

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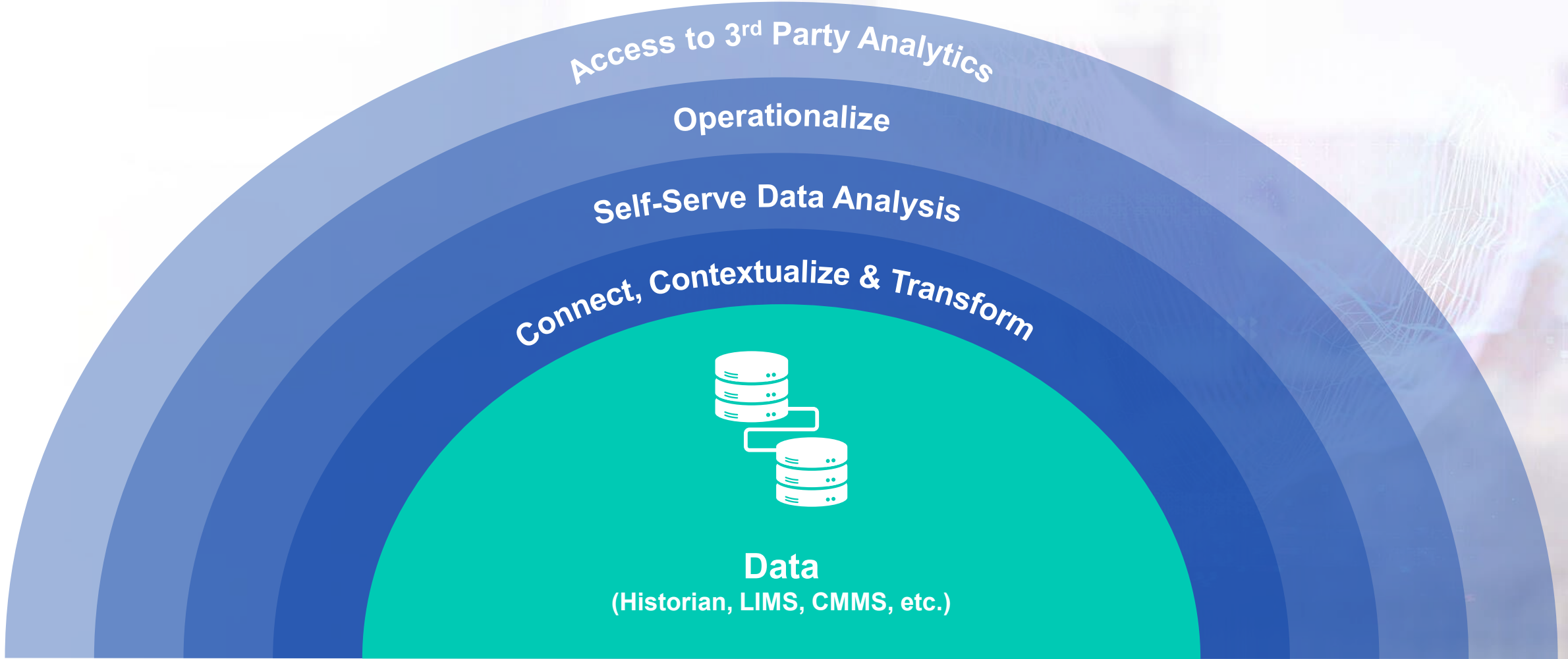
dataPARC – Industrial Analytics



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Migration Demonstration

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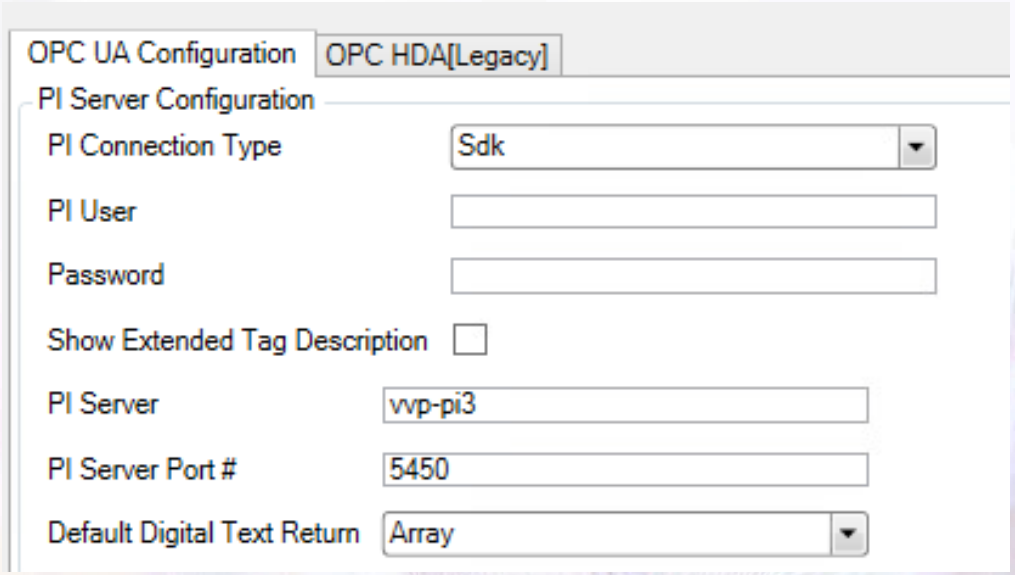
Connecting to Data

The PI SDK and PIAF SDK: widely used connection types

- dataPARC can connect in a few simple steps using the PI server address and port number



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Improve Data Performance

Short term trend requests retrieve Raw data

Long-term trend requests retrieve Trend Optimized values

Reports and Product Based Analysis retrieve values from the Rollup Archive

PI Historian

Aggregate Archive

Daily, Hourly & Trend Optimized Values

Rollup Archive

Grade, Shift, Batch, Product, Run ect…

Reads Real-Time Data

Writes Aggregates & Rollups – With Filters

PARCpde – Aggregate & Rollup Engine

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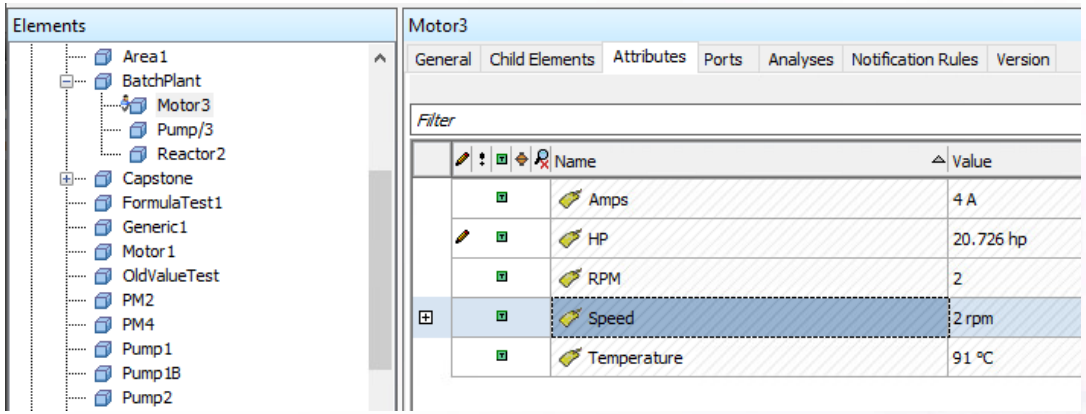
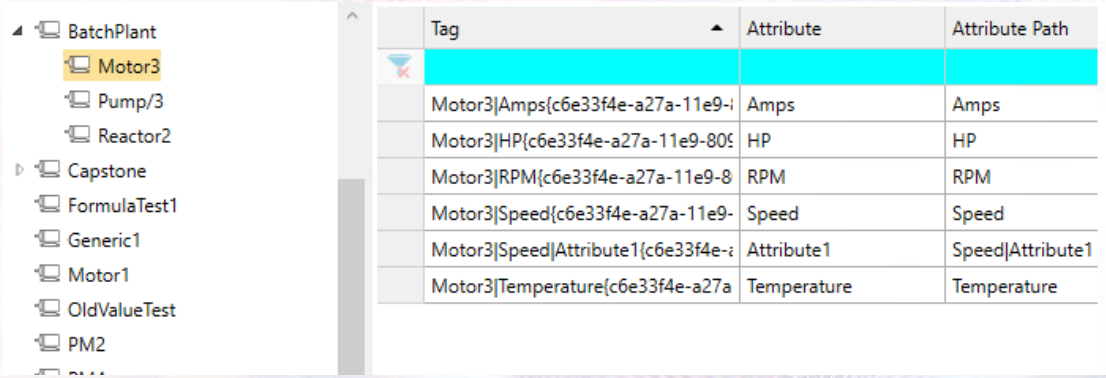
Asset Framework

Browse PI AF structure in dataPARC to leverage tag organization

PI System Explorer



PARCview Tag Browser



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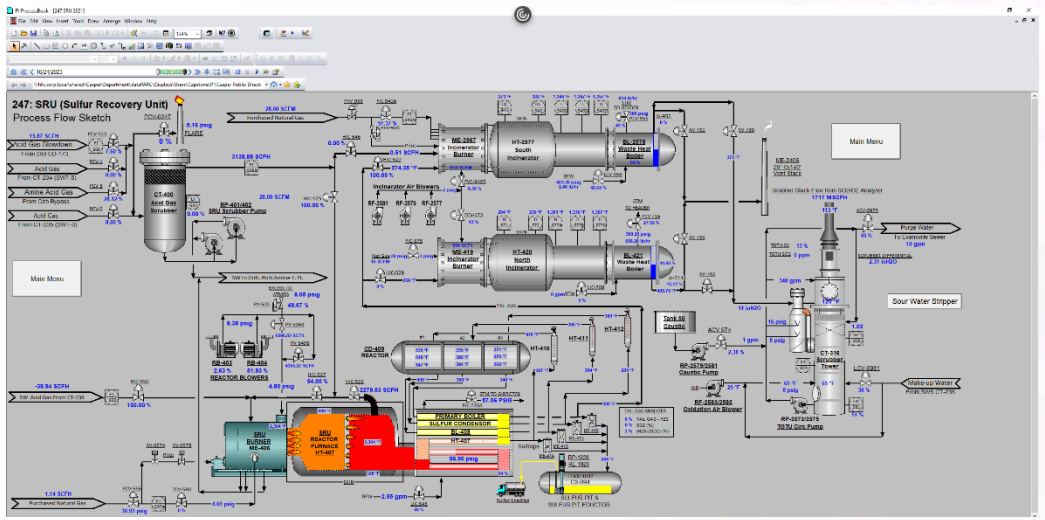
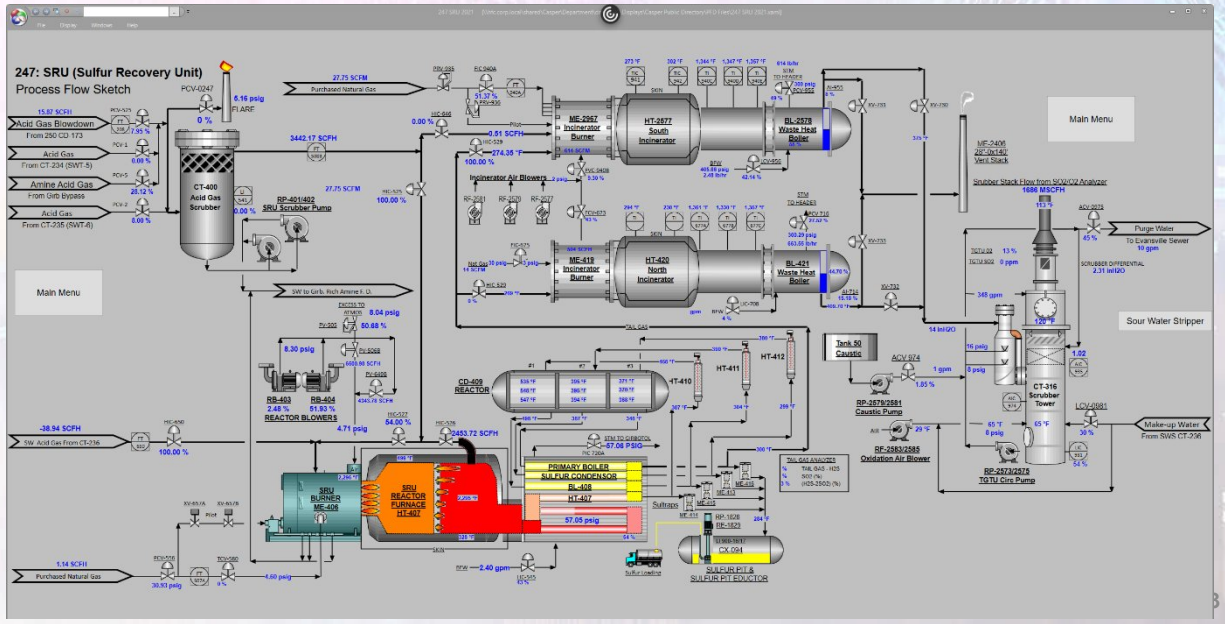
Display Conversion

Options: Convert or Re-create ProcessBook Displays

- If converting, save in required format for new solution one at a time or in bulk
- In dataPARC, you can save in two different formats: Trend or Graphic
  - Graphics display is a direct conversion from Processbook and can contain trends, flow diagrams, text values, calculations, AF elements etc.





Content Types

- Process Book Displays
- Vision Displays
- Excel Spreadsheets using PI Add-In
- Calculations
  - ACE Scripts
  - Performance Equations
  - Totalizers
- PI Write Backs for manual entered data
- PI Notifications

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Number of Conversions Migrations

- 15 years of developing tools for Converting and Migrating from PI
- Completed Conversions for 100+ Companies
- Large Process Industry Enterprise has 8 sites with ~250k tags
  - Process Book Displays
  - Excel Spreadsheets
  - PE & Totalizers
  - PI Notifications
  - PI Write Back

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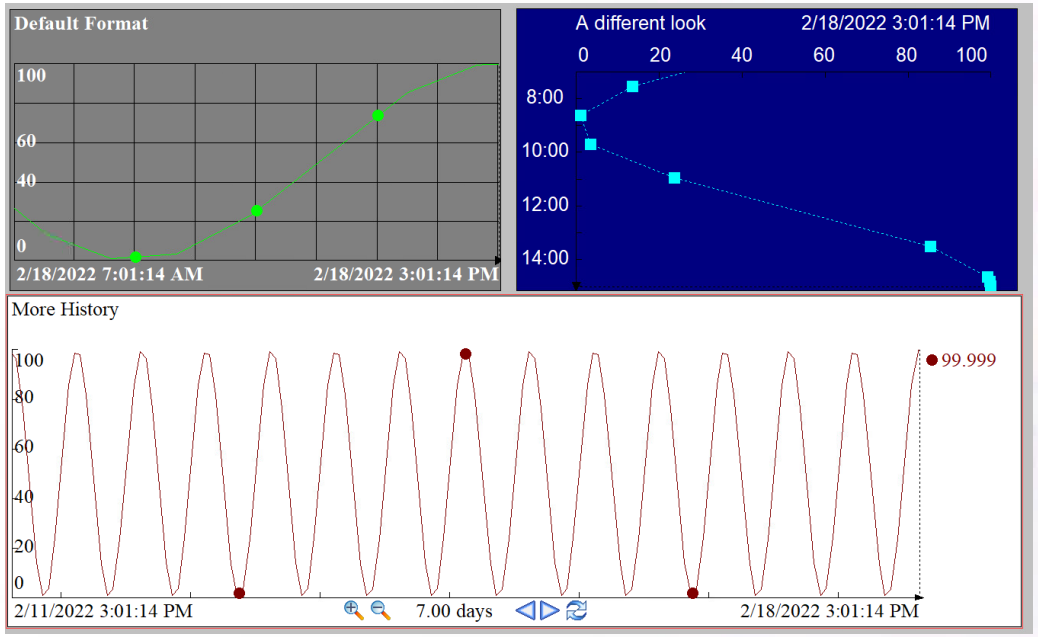
Trend Conversion

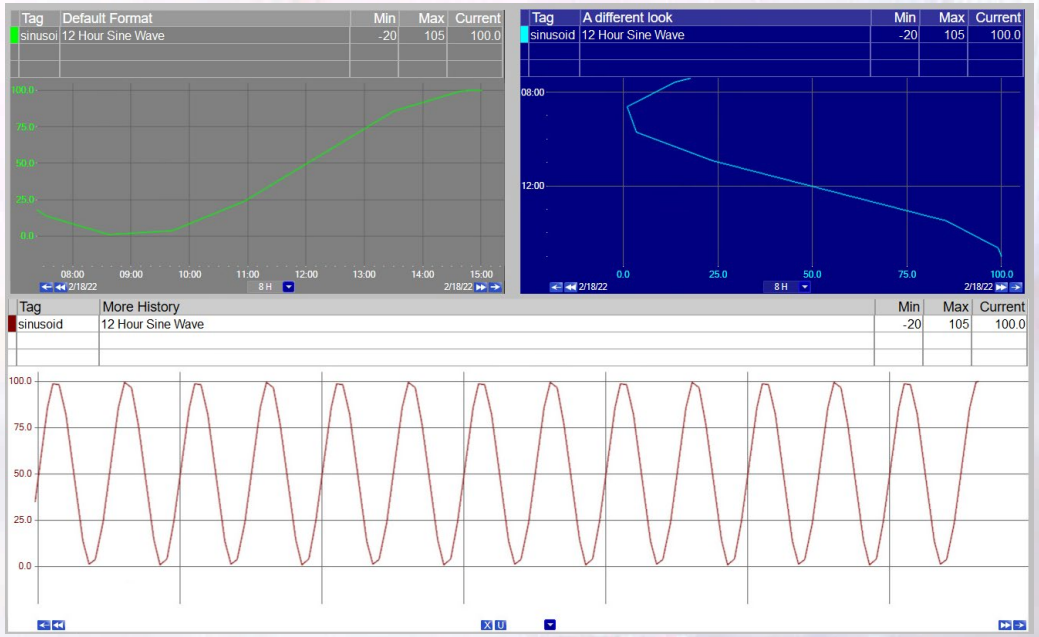
Second format is Trend display

- Cleaner and fully optimized for trending.

ProcessBook



PARCview



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Capabilities Demonstration

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Conversion Case Study

- S-Oil Ulsan, Korea
- 150k tags with 20 years of historical data
  - Process Book Displays (800+)
  - PI DataLink Excel Displays (100+)
  - 100+ Users
- Key Reasons for Migration & Replacement
  - Fast Performance of Trending through PARCpde (Performance Data Engine)
  - Advanced Trend Functions
  - Multiple Data Sources Connections
  - Unlimited License for Users
  - Lower maintenance cost
  - Quick Implementation (less than one month)

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