

NOVEMBER 2022

AVEVA™ Value Chain Optimization

Roadmap and Vision

Presented by: David Bleackley



Oil and Gas Downstream Industry Current Scenario

Significant changes on workplace, workforce and market imperatives

Market Dynamics

Less predictable market

Oil price more volatile, balance between Nuclear, Conventional, Renewables changes rapidly



Complexity

More JVs, new processes to monetize gas, Increasing regulation



Workforce

Generational Changes;
Knowledge Management



Socio-Political pressure

Carbon neutrality, regulations, ...



Tightened Margins

Reduced oil and product prices,
smaller “spread” between supply and output



Business Challenges

*Better Visibility,
Rapid Response*

Improved return on capital

*Process, Operational
Efficiencies & Cost Out*

Risk Management

New Business Models

Value Chain Optimization

Technology Trends



**Cloud and
Continuous Delivery**



Digital Twin



**Big Data &
Analytics**



**AI and High-
Performance
Computing**



Cyber Security

AVEVA



Exceptional times

- Post-pandemic demand volatility
- Supply disruptions
- Limited storage capacity
- Price volatility
- Drastic changes in optionality
- Wide-ranging energy transition objectives



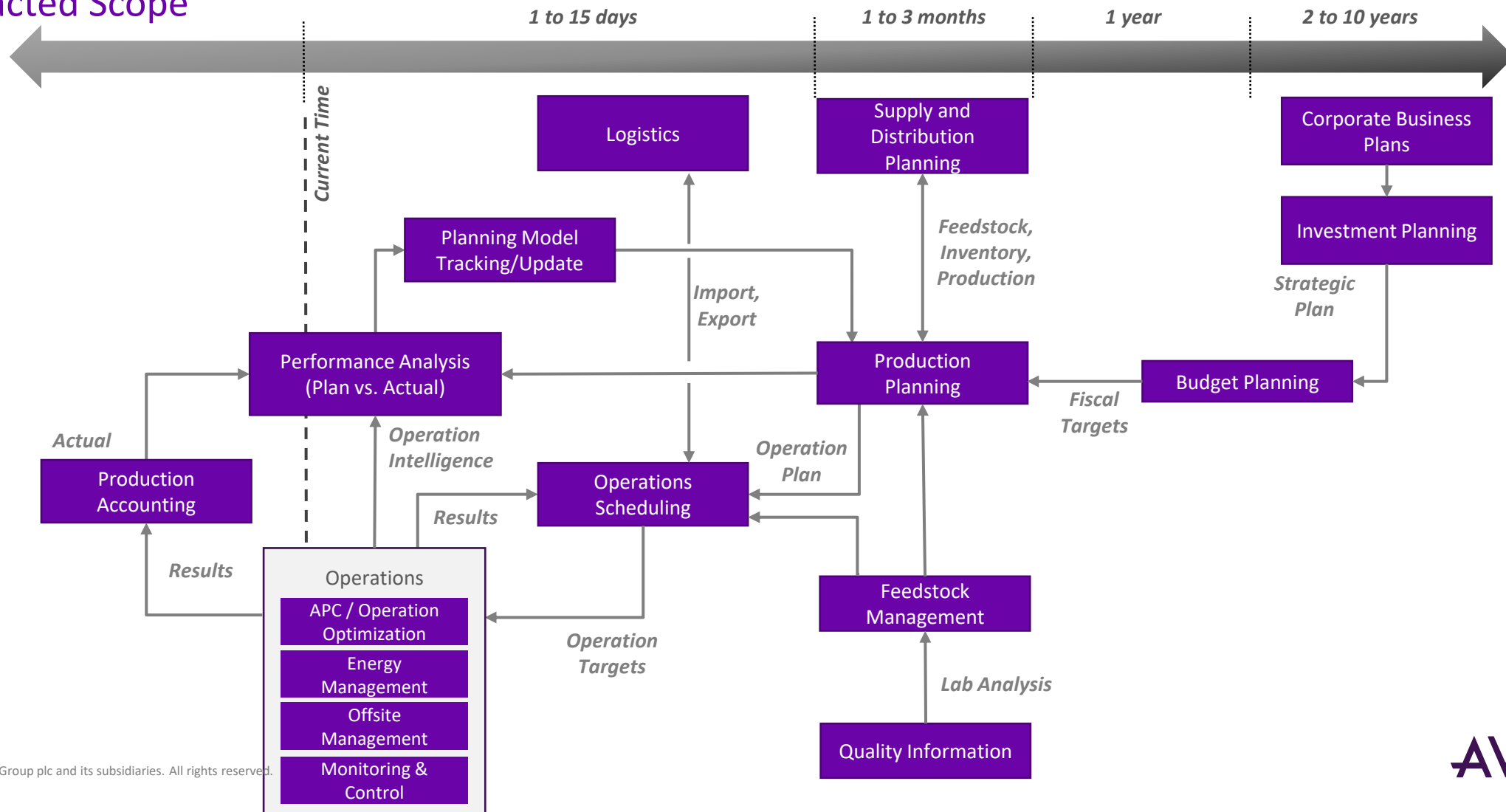
Digital Agility Forges Digital Resilience

"Oil and gas companies and their suppliers need to have capabilities in place to enable greater resiliency and adaptability as they face disruptive market environments."

-IDC Report

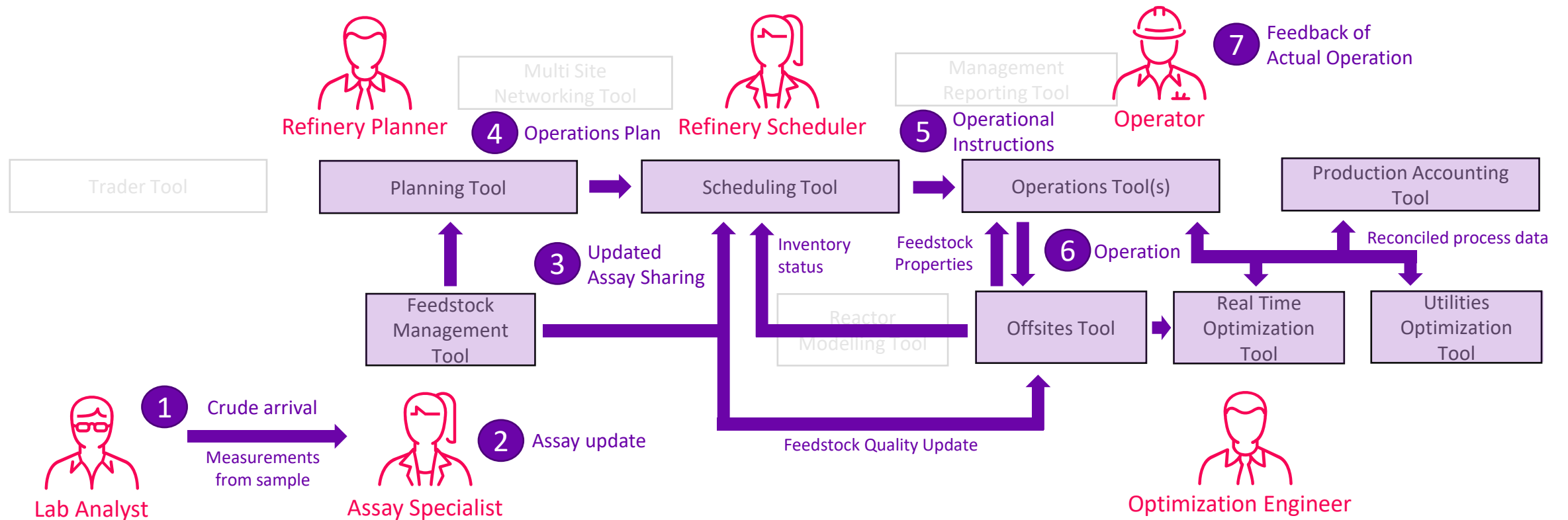
Refining and Petrochemical Value Chain

Abstracted Scope



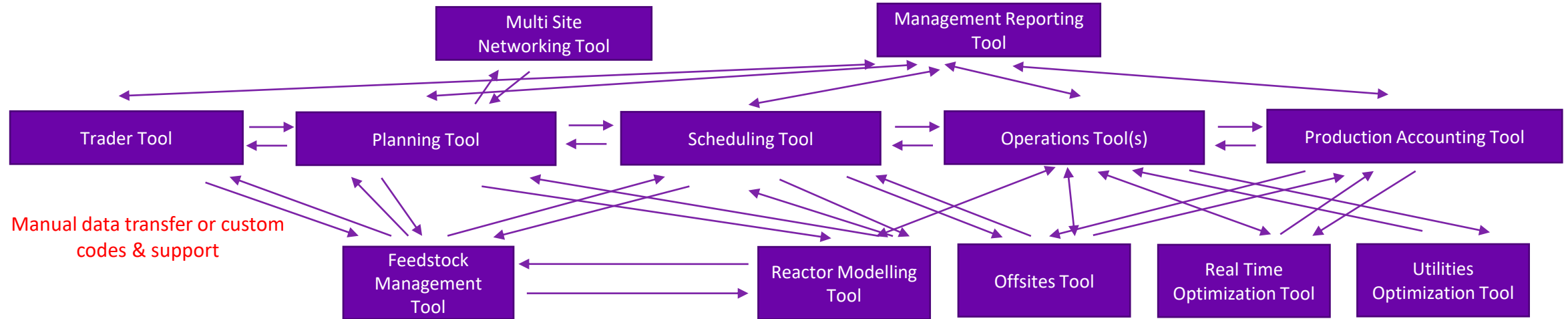
Real Workflows - Oil and Gas Downstream Value Chain

Example: The operations execution workflow



Downstream O&G Value Chain

Real Workflows: Legacy of Point Solutions



Low Transparency

Low Consistency

High Tool Dependency

Lack of Agility

Low Accuracy

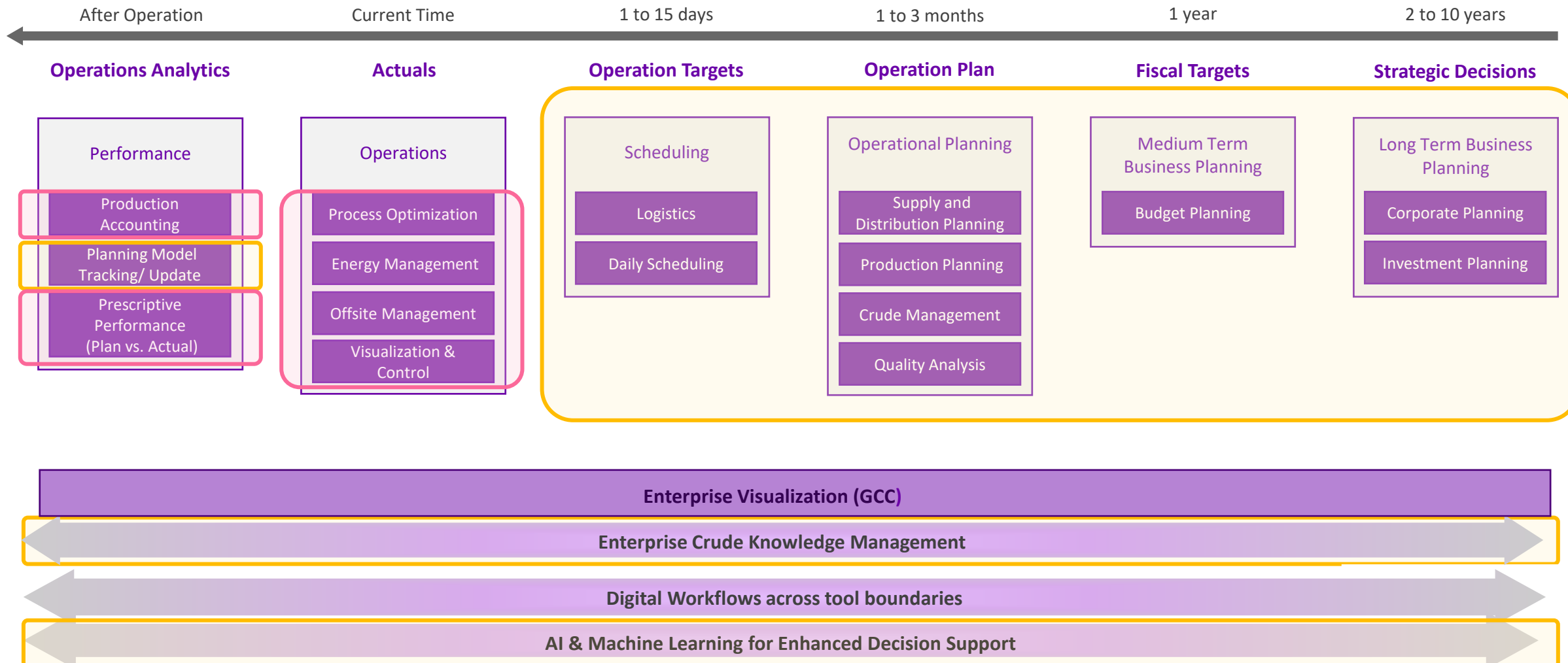
High Maintenance

Value Chain Optimization Vision

Digital Twin
(Process)

Digital Twin
(Supply Chain)

Enable Enterprise Collaboration & Agility to Maximize Profitability Across the Value Chain

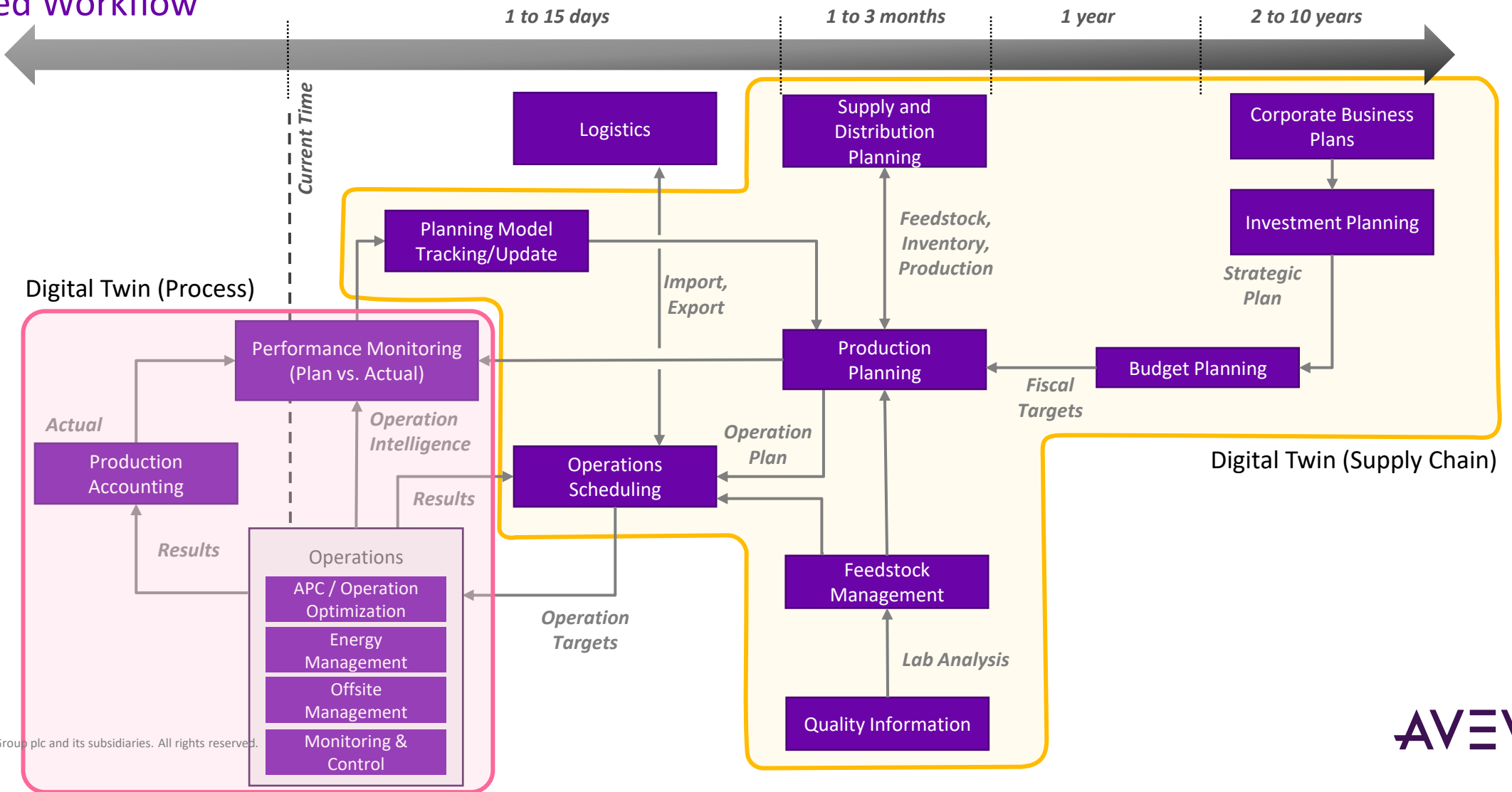


ONE AVEVA

Contribution to cloud platform

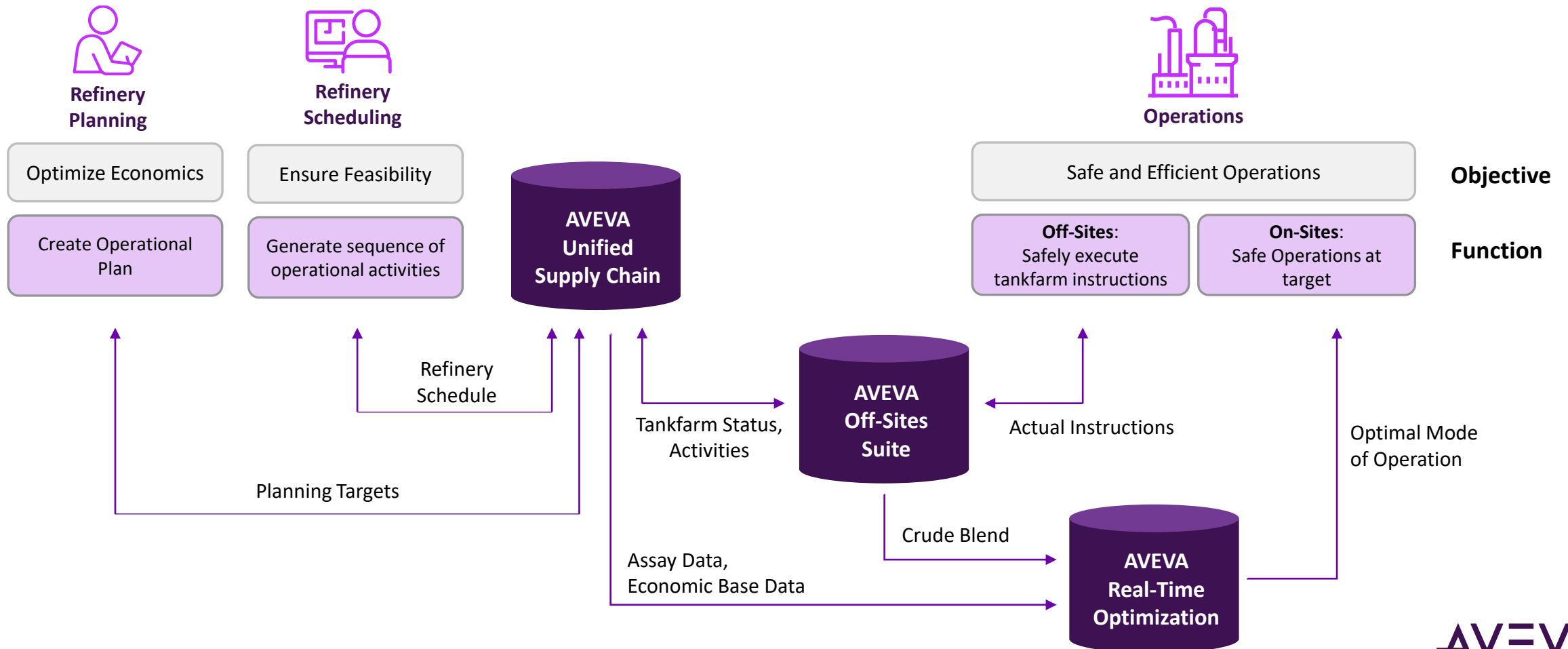
Refining and Petrochemical Value Chain

Detailed Workflow

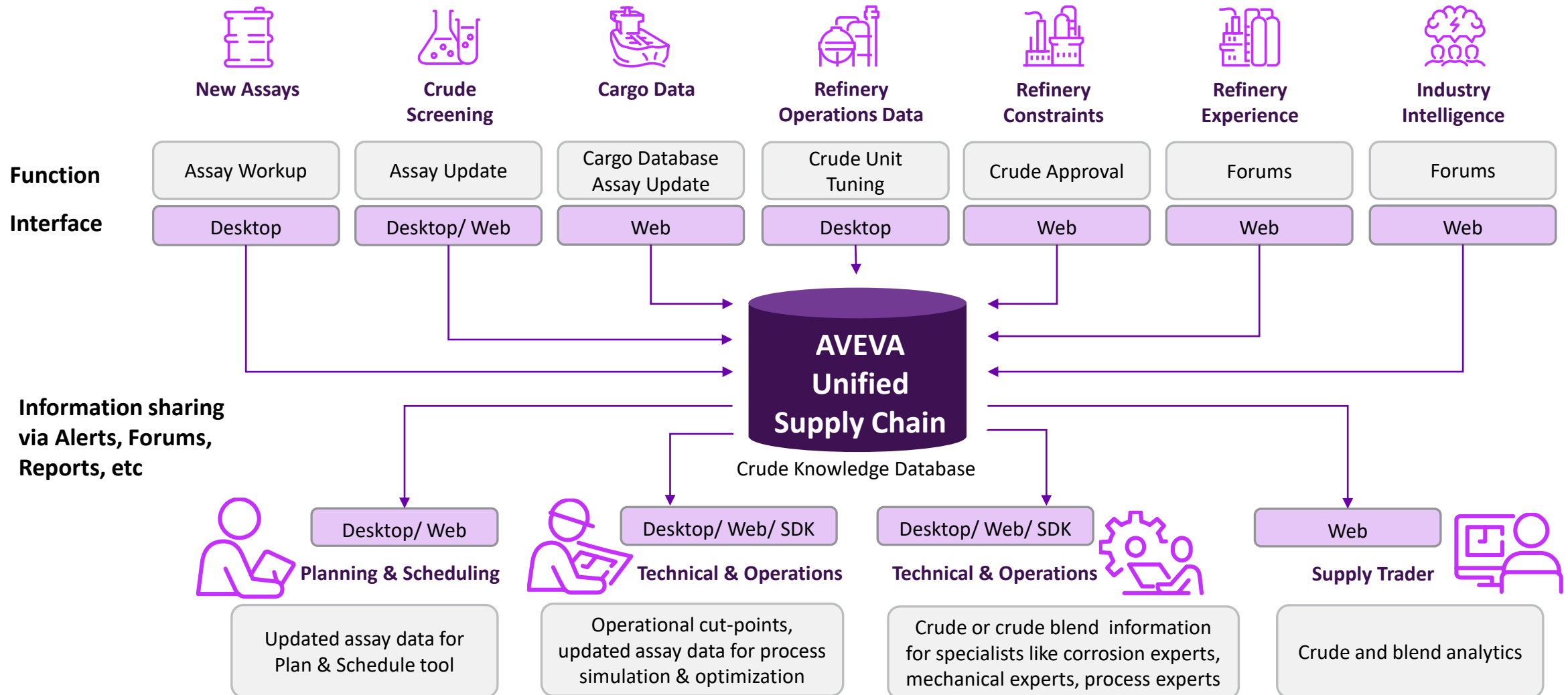


New workflows – Example: Operations & Optimization

Closing the gap between model-based planning & scheduling and real time-based operations



New workflows – Example: Crude Management



BP – Oil & Gas Downstream

Business revolution with AVEVA's solution in the cloud

- Goals
 - Simplify and standardize Oil & Gas downstream supply chain management
 - Enhance data management and transparency to improve decision-making
 - Reduce IT cost of ownership and increase agility
- Challenges
 - Lack of transparency and duplication of efforts across the supply chain
 - Inability to make quick decisions that could benefit the business
 - Disconnected processes and tools — multiple local planning solutions
- Results
 - Significant margin improvements through an improved refinery optimization process
 - More robust and lower risk plans — ability to run complex models that weren't possible before
 - Earlier decisions and communications on feedstock purchasing and planning operations
 - Standardization of data and better transparency: all teams and different sites are using the most up-to-date information, sharing best practices for modelling, analyses, and business processes.
 - BP is no longer limited by technology, but rather empowered by it

“If you could do in minutes what previously took a day, what would you do? AVEVA's technology in the cloud is creating time, and BP's responsibility is what to do with the time saved. This is revolutionary to our business.”

Claire Dickson, CIO of Downstream



Earlier decisions

2 days → 2 hours
on planning & crude purchase



Improved calculation speed
7 hours → 3 min
to run planning model



Transparency & collaboration
Instant sharing
of plans across enterprise

ADNOC – Multiple companies on One Enterprise Platform to Achieve Max Profit

Smarter and faster decision-making through digital command centre

- Challenges

- Long cycle to produce production plans, inconsistency in reporting, location performance and discrepancy in transfer measurement between plants
- Reduce “value leaks” and improve enterprise visibility on operations, equipment, energy usage, and production information

- Solution

- Panorama Digital Command Center: single source of accurate information across ADNOC’s value chain, powered by AVEVA leading technology
- Spiral Unified Supply Chain Management model of all ADNOC subsidiaries to enable enterprise optimization across the entire value chain
- Feedstock characterization, production planning with integrated analytics and supply and distribution network optimization

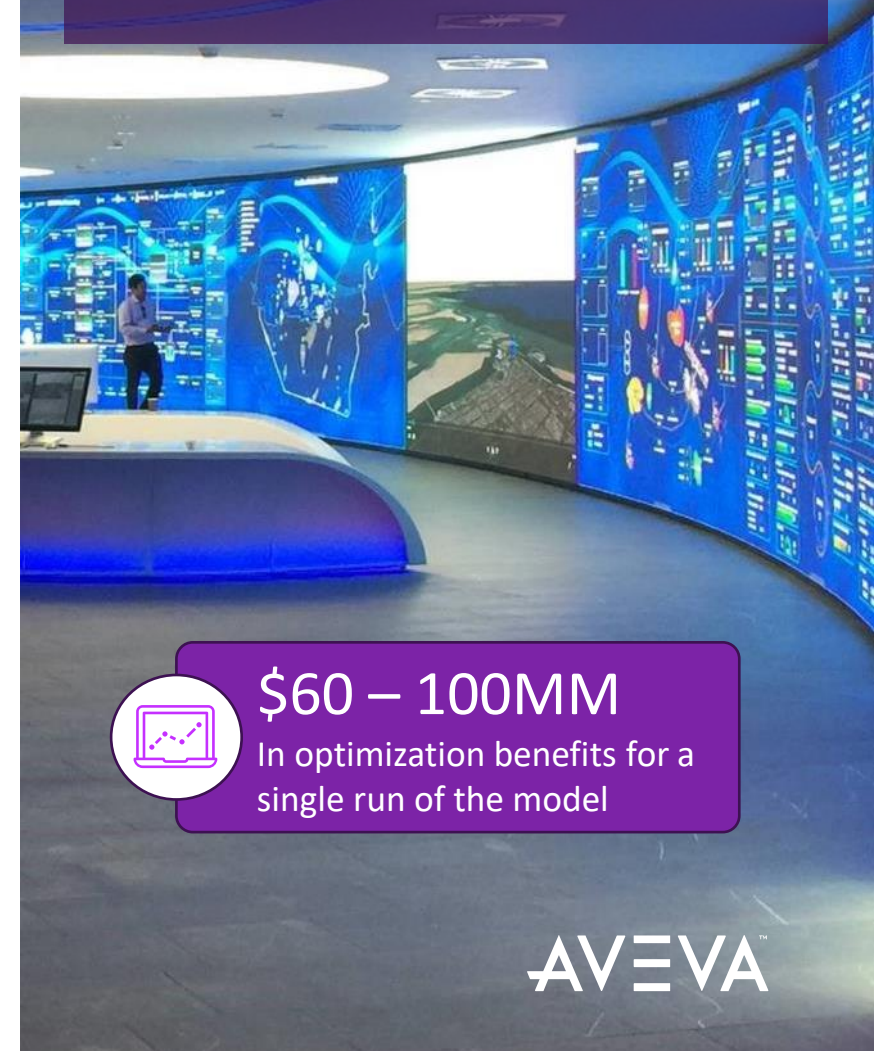
- Results

- Panorama provides access information from one central location, enabling a “single version of the truth” via dashboards viewable from Pods and the 150ft x 10ft video wall centerpiece
- Enterprise value chain optimization enabling collaboration and agile strategic decision making
- \$60-100 Million benefits in optimization in a single run of the integrated production planning model

Source:

AVEVA’s Unified Event 2018 Presentation / ADNOC customer success story on [AVEVA’s website](#)

“ADNOC’s Integrated Production Planning model allows to run techno-economic optimization scenarios that better support strategic decision-making processes and to further identify internal/ external potential market opportunities for ADNOC.”



\$60 – 100MM

In optimization benefits for a single run of the model

Uncover Profitable Pathways to Net Zero

AVEVA Value Chain Optimization Sustainability and Energy Transition use cases are already helping customers in their Net Zero journeys

Carbon Chain Optimization solution helps prioritize activities and initiatives and sets the course

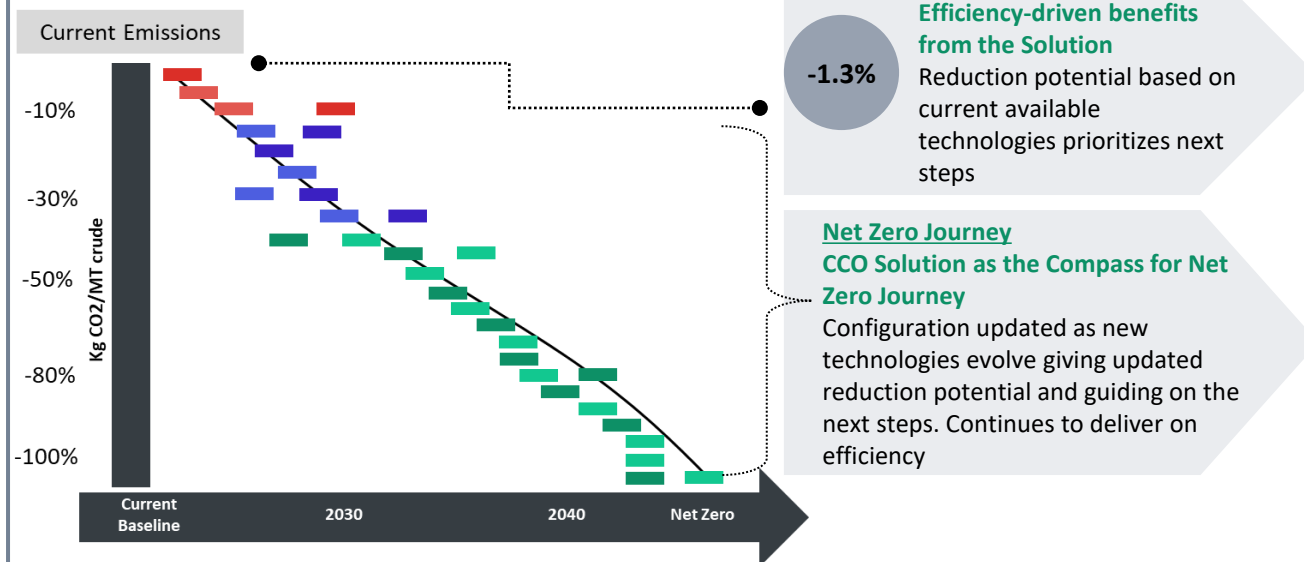
Carbon Aware Planning
Economic investments and operating plans considering scope 1,2 and 3 emissions



Process Digital Twin Based Energy & Emissions Management
Calculate energy and emission reduction potential

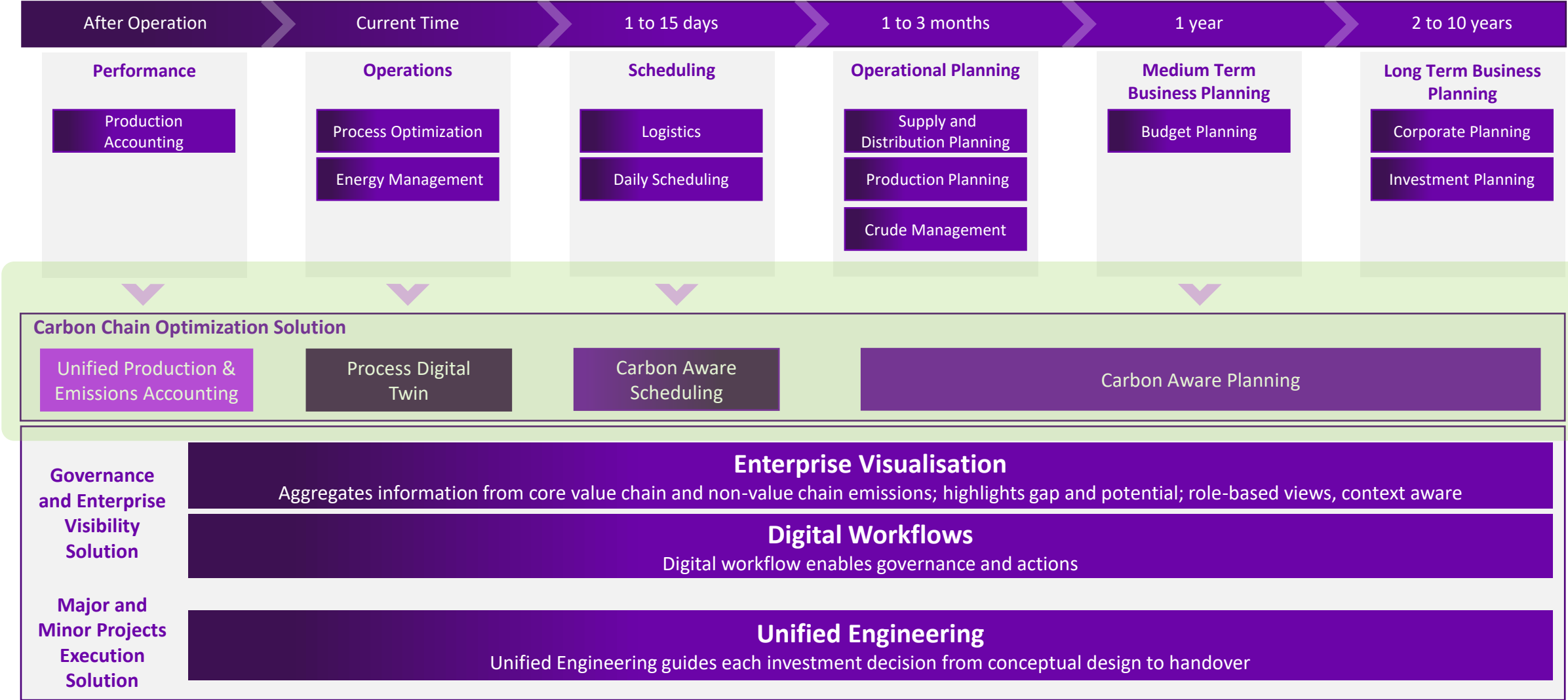
Unified Production & Emissions Accounting
Align production and emissions accounting to baseline and track results into your Sustainability Reporting

Carbon Navigate through multiple pathways to Net Zero



Solution enables PDCA cycles (plan-do-check-act):
Generating Plan and Targets
Monitoring & Gap Analysis
Prioritize & Act

AVEVA's Net Zero Framework





CUSTOMER CASE STUDY

bp sets up commercial CO₂ emission modeling for refinery operations using AVEVA supply chain optimization

bp - www.bp.com
Oil and Gas

Goals

- Leverage advanced cloud computing and automation for a standardized approach across refinery operations, to deploy models faster and sustainably
- Introduce the ability to model CO₂ emissions within each bp-operated refinery to provide new insights to track and manage CO₂ emissions

Challenges

- Providing a single, global tool and data set to align heritage work practices and provide improved planning performance with sharing of expertise and visibility of results across the refineries
- Standardizing modeling of CO₂ emissions globally across the network of bp-operated refineries

Solution

- AVEVA™ Unified Supply Chain

Results

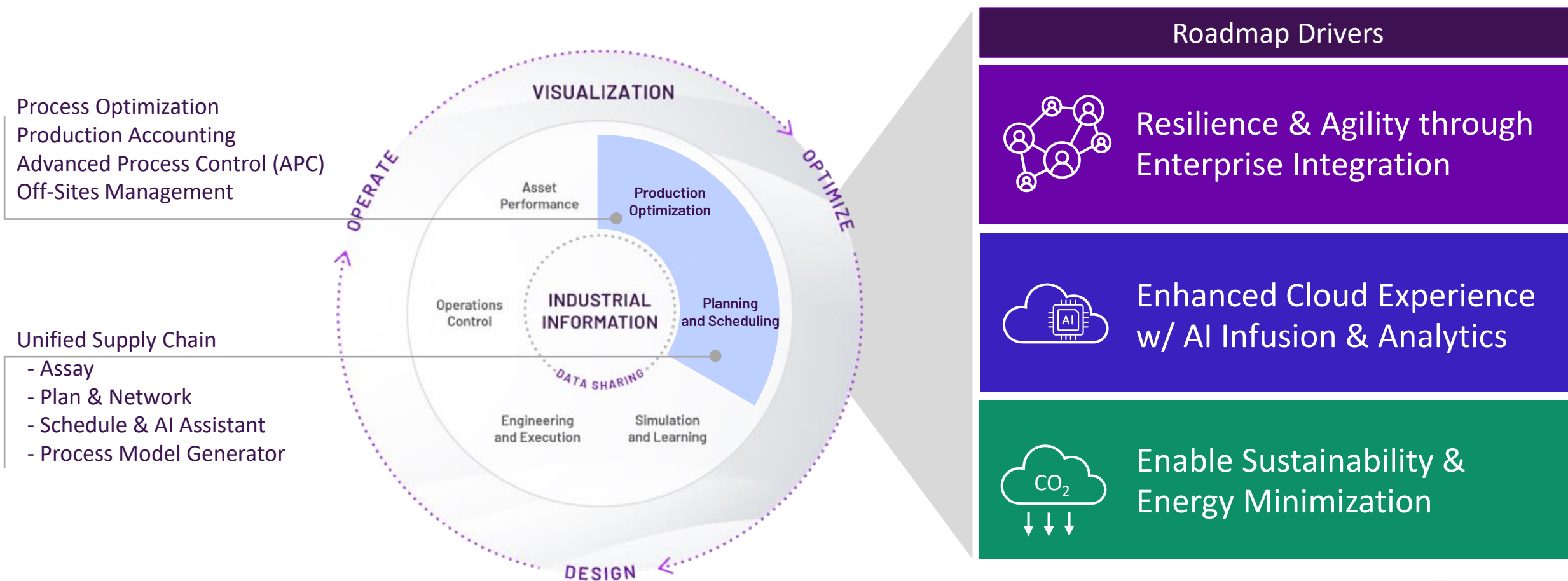
- bp's refineries have implemented an improved and easy-to-use planning tool, with the capability to model many different scenarios and return results at pace
- Simplified decision-making that can be performed faster using one optimization tool, delivering competitive advantage
- Margin improvements through improved decision-making capabilities
- Improved CO₂ emissions modeling capabilities that can be used to plan, test and evaluate strategies for carbon reduction

Case study published May 2022

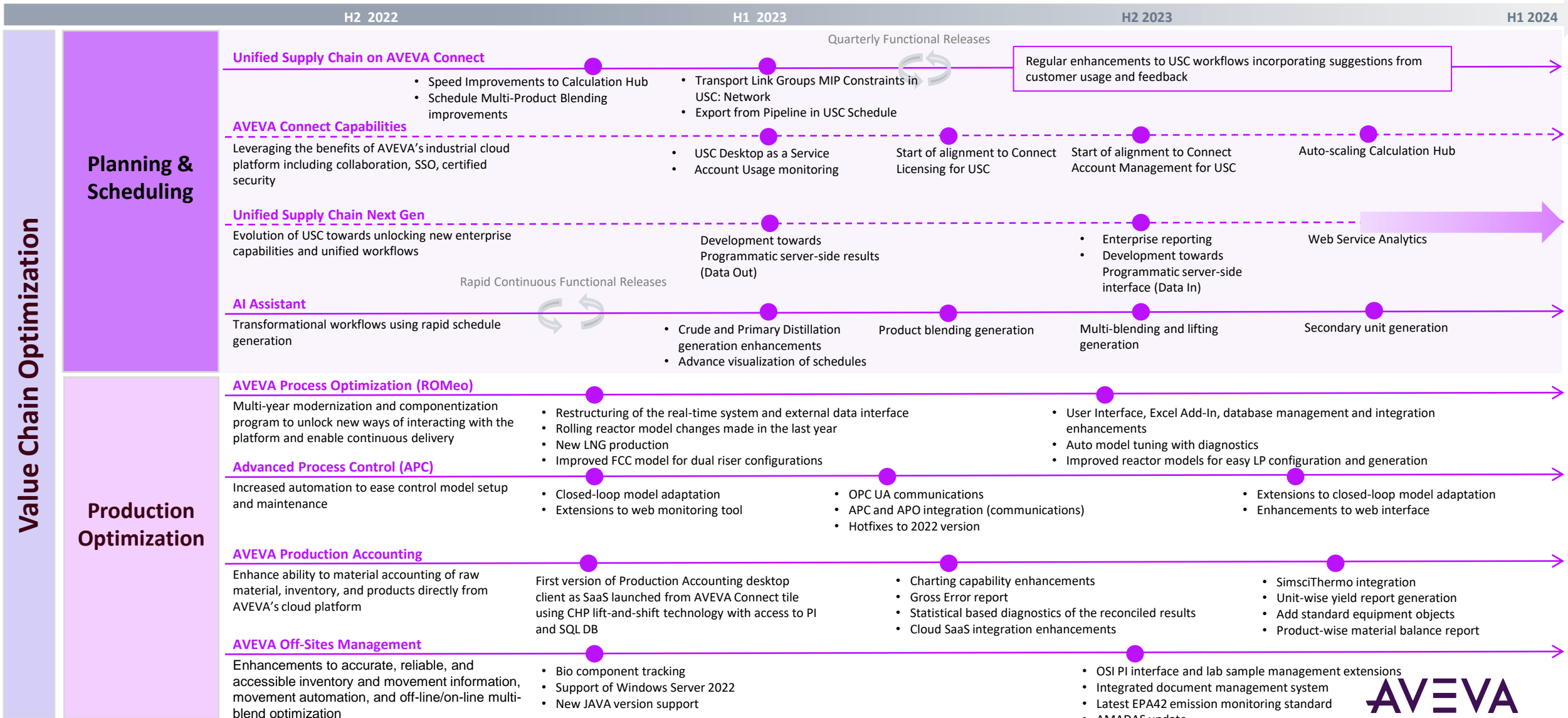
www.aveva.com

Optimize your value chain to capture market opportunities

Unified system to enable enterprise agility and collaboration across supply chain & operations



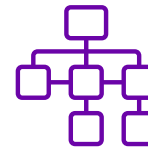
AVEVA Value Chain Optimization Roadmap



*Effective economic optimization
of hydrocarbon value chain can
boost profitability by
\$50 to 300 million
per year for a typical
oil refinery*

AVEVA's Business Value

Value Chain Optimization



Business process
improvement



Break down
silos



Better decision
making



Increase revenue
and margin

While Helping to Achieve Sustainability
Objectives

AVEVA[™]



Thank You

- Contact for more information

David Bleackley

Head of Value Chain Optimization

david.bleackley@aveva.com

Questions?

Please wait for the microphone.
State your name and company.



Please remember to...


Navigate to this session in the mobile
app to complete the survey.



Thank you!

This presentation may include predictions, estimates, intentions, beliefs and other statements that are or may be construed as being forward-looking. While these forward-looking statements represent our current judgment on what the future holds, they are subject to risks and uncertainties that could result in actual outcomes differing materially from those projected in these statements. No statement contained herein constitutes a commitment by AVEVA to perform any particular action or to deliver any particular product or product features. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect our opinions only as of the date of this presentation.

The Company shall not be obliged to disclose any revision to these forward-looking statements to reflect events or circumstances occurring after the date on which they are made or to reflect the occurrence of future events.

 [linkedin.com/company/aveva](https://www.linkedin.com/company/aveva)

 [@avevagroup](https://twitter.com/avevagroup)

ABOUT AVEVA

AVEVA is a global leader in industrial software, sparking ingenuity to drive responsible use of the world's resources. The company's secure industrial cloud platform and applications enable businesses to harness the power of their information and improve collaboration with customers, suppliers and partners.

Over 20,000 enterprises in over 100 countries rely on AVEVA to help them deliver life's essentials: safe and reliable energy, food, medicines, infrastructure and more. By connecting people with trusted information and AI-enriched insights, AVEVA enables teams to engineer efficiently and optimize operations, driving growth and sustainability.

Named as one of the world's most innovative companies, AVEVA supports customers with open solutions and the expertise of more than 6,400 employees, 5,000 partners and 5,700 certified developers. With operations around the globe, we are headquartered in Cambridge, UK and listed on the London Stock Exchange's FTSE 100.

Learn more at www.aveva.com