

IZZI Business Services

Company Profile



- ❖ Reputed and trusted service provider since 2016 based out in India.
- ❖ Serving manufacturing industries with special focus on Energy sector.
- ❖ Best in class service by experienced and certified professionals.
 - 20+ implementation and support projects delivered.
 - 20+ consulting service assignments executed.
- ❖ Stands firm on pillars of moral values and ethical business practices.



Our services



Implementation

We provide operational technology implementation services to build models for clients with industry best standards. We also provide integration services for seamless data flow across various business applications.

Support

We provide continuous and need based support services to our clients, to ensure maximum benefits are achieved by effective utilizations of existing systems.



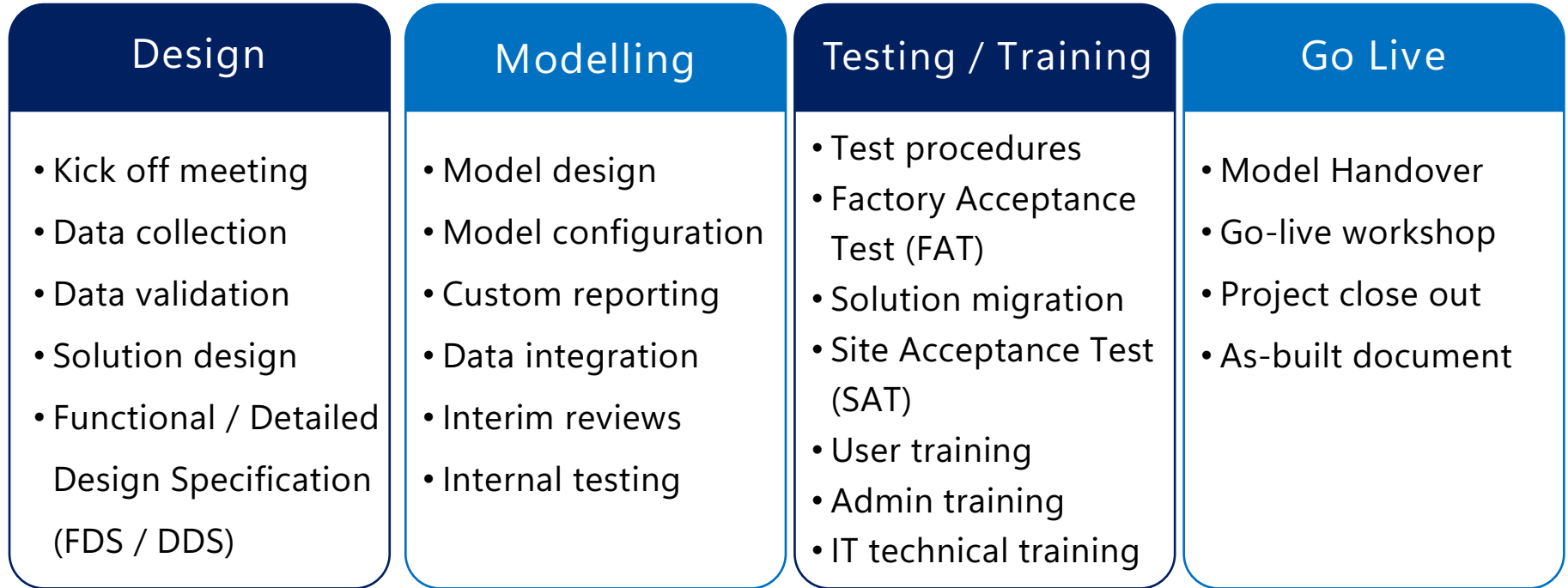
Consulting

We provide technical and project management consulting services to our clients to elevate their business processes and model utilizations to align with industry best practices.

Training

We provide standard and customized training programs for business processes and applications, in line with client requirements.

Implementation services



Project Management

- ❖ Business process consulting
 - As-Is business process review
 - Industry best practices
 - Gap analysis & improvement strategies
 - To-Be business processes mapping
- ❖ Architecture design for OT applications
- ❖ Requirement specifications / scope of work documents
- ❖ Project management consulting (PMC) services
- ❖ Refinery configuration studies
- ❖ Profit improvement studies / consulting services

Training services



Technology specific training

- Standard product training
- Client specific customized training



Remote training

Business domain training

- Standard training
- Advanced customized trainings

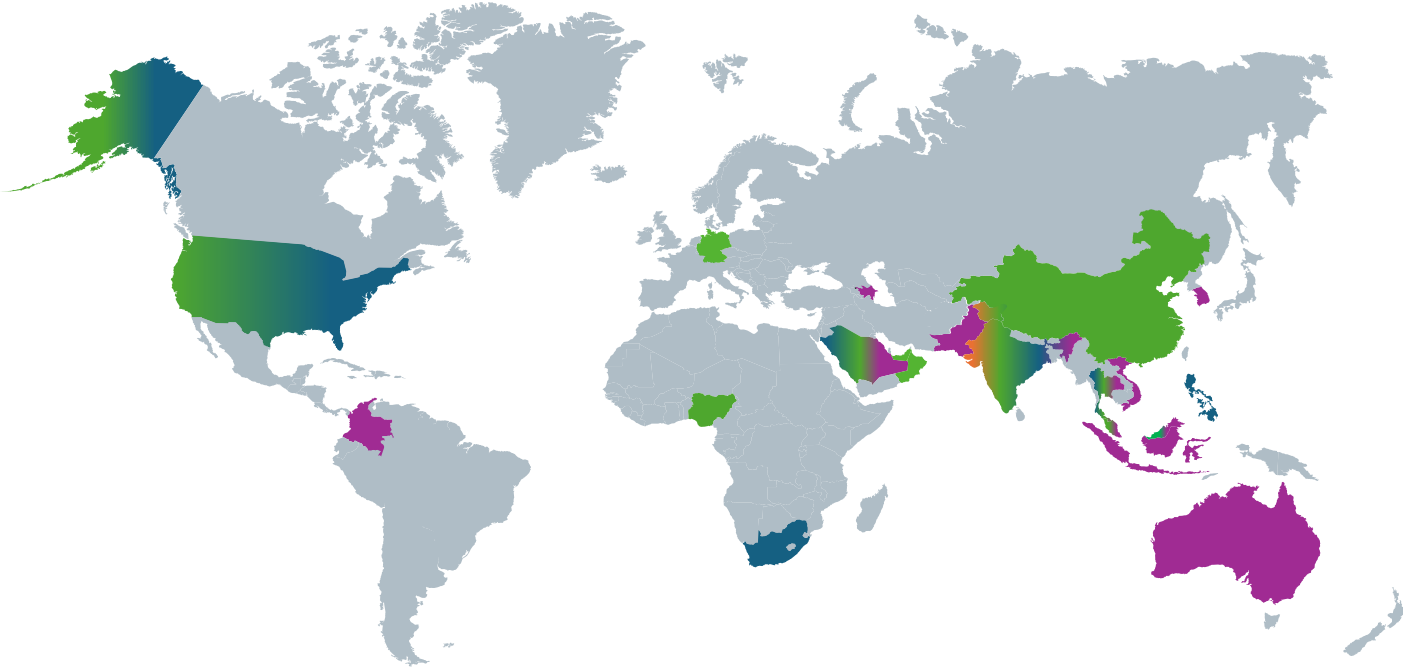


Onsite classroom training

IZZIBS also offers CPD accredited trainings in collaboration with Petrogenium, Netherland

- ❖ Continuous and uninterrupted support services to ensure the maximum benefits are achieved by customers.
- ❖ Onsite and remote support services
 - Functional support for business processes
 - Technical support for model maintenance and update
- ❖ Flexible support models as per client requirements
 - Continuous support with dedicated engineers
 - Need based support to optimize service cost
 - Onsite, remote or combination of both

Our global clients



South and East Asia

- India
- South Korea
- Thailand
- Vietnam
- Malaysia
- Indonesia
- Philippines
- China

Central and West Asia

- Saudi Arabia
- UAE
- Oman
- Qatar
- Pakistan
- Azerbaijan

Americas

- USA
- Colombia

Europe & Africa

- South Africa
- Nigeria
- Germany

Australia

- Australia

Planning

Scheduling

Digitalization

Consulting

Our Project Partners



AVEVA

REGISTERED
System
Integrator

McKinsey
& Company



Petrogenium.

accenture
High performance. Delivered.

**Tech
Mahindra**

 **Jaaji Technologies**
Sophistication with Simplicity



Manufacturing Supply Chain

- ❖ Crude oil analysis
- ❖ Crude assay synthesis or updates using lab data
- ❖ Crude tower tuning using distillation data
- ❖ Crude assay integration with planning and scheduling models
- ❖ Crude net back value calculations

Technologies

- AVEVA USC Assay
- AVEVA ECKM*
- Haverly H/CAMS
- Haverly H/COMET
- Aspen Assay Manager

- ❖ Build, review and update LP models for single-plant, multi-plant & multi-period
- ❖ Model conversion from one LP tool to another
- ❖ Cost / benefit evaluation
- ❖ Profit improvement opportunities identification
- ❖ Unit configuration studies for green field and brown field refinery and petrochemicals
- ❖ Planning process and LP model trainings

Technologies

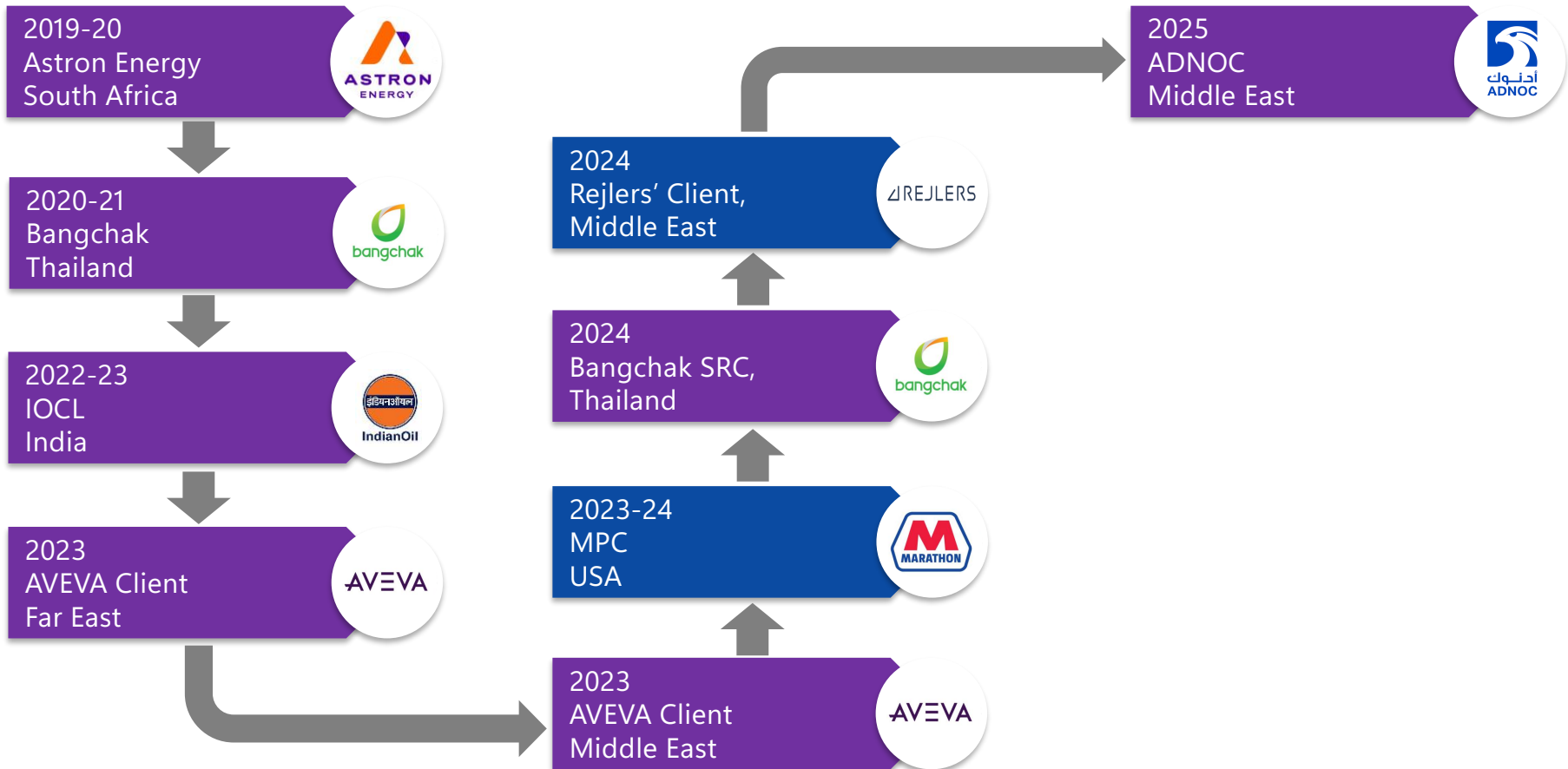
- AVEVA USC Plan
- Aspen PIMS
- Aspen Unified PIMS
- Haverly GRTMPS
- Chevron Petro LP

- ❖ Build, review and update scheduling & blending optimization models for refinery and petrochemicals
- ❖ Logistics scheduling
- ❖ Short-term and long-term scheduling business process
- ❖ Data integration with required business applications for seamless work process
- ❖ Scheduling, logistics & blend optimization training

Technologies

- AVEVA USC Schedule
- APS and ARMBO
- Aspen Unified Scheduling
- KBC VM Supply Chain Schedule
- Custom Excel based scheduling models

Planning Projects



2020-2021: Planning Model Implementation



Planning model implementation using AVEVA USC Plan

- ❖ Turnkey refinery planning model implementation project covering different project phases from KOM, data collection, FDS, model building, FAT, UAT, trainings, go-live, post implementation support.
- ❖ Delivered multi-period planning model with inventory optimization.
- ❖ Performed and proved performance guarantee by improving model accuracy against the base case.
- ❖ Excel based templates for planning inputs.
- ❖ Custom excel template-based reports for monthly operating plan and crude indifference value (CIV).



Client – Bangchak,
Thailand

AVEVA

Partner – AVEVA

2024: Planning Model Implementation



Planning model for Sriracha Refinery using AVEVA USC Plan

- ❖ Refinery planning model development project using AUSC Plan from legacy LP tool covering different project phases from KOM, data collection, model building, FAT, SAT, trainings, go-live, post implementation support.
- ❖ Multi-period planning model with inventory optimization.
- ❖ Excel based templates for planning inputs.
- ❖ Excel based custom reports for planning results.
- ❖ Standard product training



Client – Bangchak
SRC, Thailand

AVEVA

Partner – AVEVA

2019-2020: Planning Model Implementation



LP model development using Aveva USC Plan

- ❖ Refinery planning model development project to convert existing LP model from legacy tool to AUSC Plan.
- ❖ Full Integration of AUSC Plan model with AUSC Crude Assay Manager.
- ❖ Validation of results for converted LP model against legacy LP cases.



ASTRON
ENERGY

Client – Astron
Energy, South
Africa

AVEVA

Partner – AVEVA

Opportunity case analysis using Aspen XPIMS

- ❖ Analyzing the opportunities for improvement using Aspen XPIMS models for South (covering 2 refinery sites) and North (covering 4 refinery sites) regions.
- ❖ Services mainly included case setup, case runs, infeasibility troubleshooting, cases comparison.
- ❖ Highlight the benefits of using XPIMS model over PPIMS model.
- ❖ Identify and capture the benefits based on various LP runs.



Client – Marathon
Petroleum
Corporation, US



Partner –
Accenture

Enterprise Real-Time Optimizer (eRTO) - PANORAMA 2.0

- ❖ The eRTO project aims to implement real-time, enterprise-wide optimization across all ADNOC sites by leveraging inter-site synergies and optimizing product and feedstock transportation.
- ❖ The solution integrated AVEVA's USC Plan, Integration Manager, and Cognite's CDF platform to process live operational data, which was fed into the LP model to generate optimization directives for maximizing overall economic performance.
- ❖ Our services included updating the AUSC network model based on data collected, performing offline scenario analysis, ensuring model stability and participate in SAT workshops for system validation and deployment readiness.



Client – ADNOC,
UAE

AVEVA

AVEVA

Planning model conversion using Aveva USC Plan

- ❖ Refinery planning model development to convert existing LP model from legacy tool to AUSE Plan.
- ❖ Key highlights of the model are detailed below:
 - Process model structures with yield variability based on different throughputs.
 - Mixed integer program (MIP) configuration for various units based on mode, severity, feed bracket constraints.

Client – AVEVA
Client, Far East

AVEVA

Partner – AVEVA

Planning model conversion using Aveva USC Plan

- ❖ Refinery and petrochemical planning model development to convert existing LP model from legacy tool to AUSE Plan.
- ❖ Key highlights of the model are detailed below:
 - Configuration of refinery process units, ethane cracker and petrochemical units.
 - Process unit configuration with stoichiometric yields, product-based throughput, utility and operating conditions for petrochemical units.
 - Detailed modelling with component-based tracking of naphtha from CDU to aromatics complex.

Client – AVEVA
Client, Middle East

AVEVA

Partner – AVEVA

2024: Planning model support



Planning model update using Aspen XPIMS for Rejlers' client and economic sensitivities

- ❖ The project scope involves providing LP model support for updating Aspen PIMS-AO model.
- ❖ Services mainly included submodel modifications as per project data, case setup, case runs, infeasibility troubleshooting, cases comparison.
- ❖ Additionally, the study incorporated feasibility evaluations through Aspen XPIMS to assess the impact of throughput sensitivity to identify bottlenecks of profit-making unit & impact on other refinery operations and profitability.

Client – Rejlers'
Client, Middle East

△ REJLERS

Partner – Rejlers

2022-2023: Planning Model Support



Planning model implementation support using Aveva USC Plan

- ❖ Support the final project phase for delivery of planning model using AVEVA USC Plan
- ❖ Modification of the plan model in line with best practices
- ❖ Resolution the open punch items and prepare for SAT
- ❖ As-built documentation



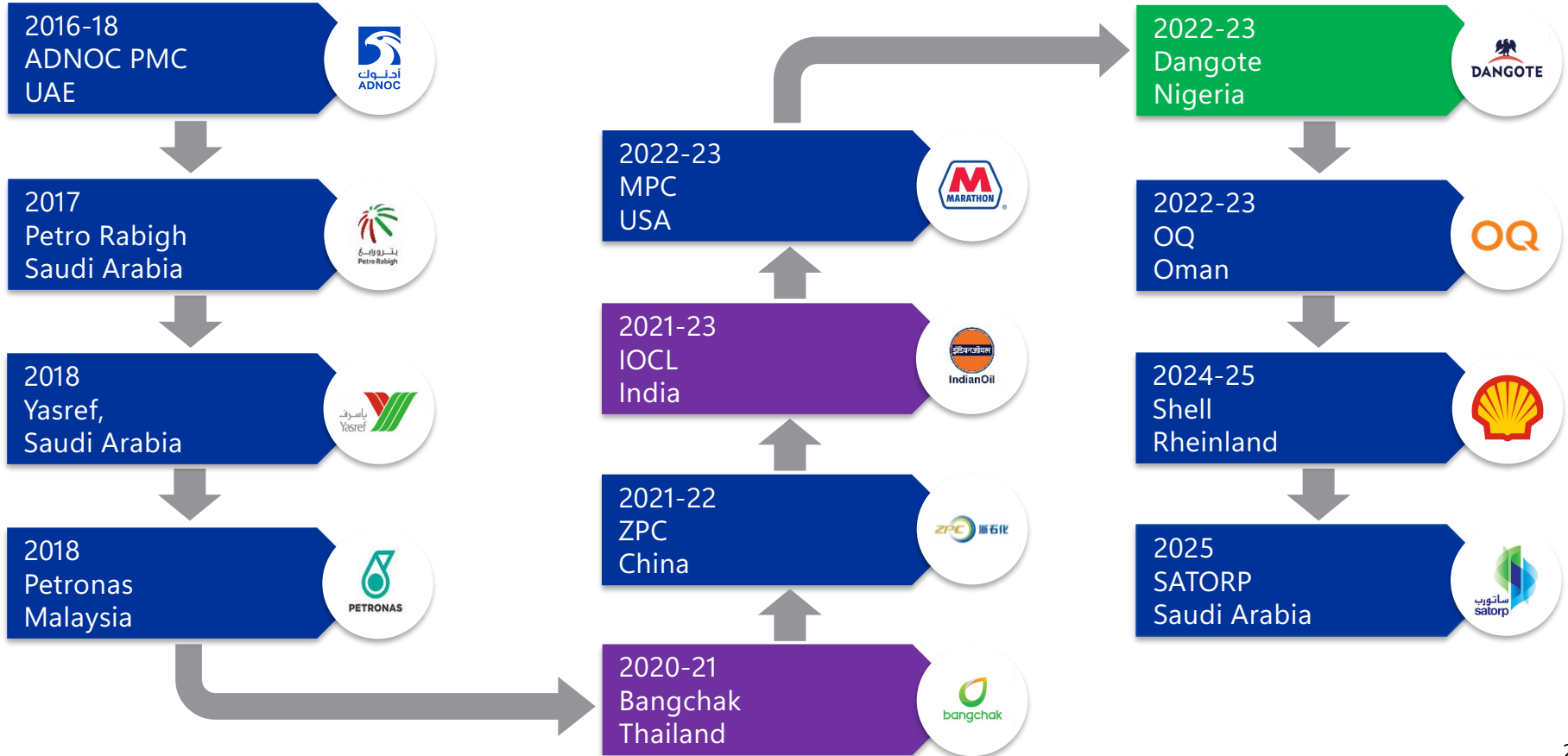
IndianOil

Client – Indian Oil Corporation, India



Partner – Proclink

Scheduling Projects



2021-2023: Scheduling Model Implementation



Multi-site scheduling model implementation using AVEVA USC Schedule

- ❖ Project implementation scope was refinery scheduling models for 9 refineries and 1 PetChem complex.
- ❖ IZZIBS scope covered KOM, onsite data collection, FDS and model design for 7 refineries.
- ❖ IZZIBS scope also covered model building, FAT, SAT, trainings, go-live for 4 refineries.
- ❖ Support to integration team for testing of baseline data and custom reports.



IndianOil

Client – Indian Oil Corporation, India

AVEVA

Partner – AVEVA

2020-2021: Scheduling Model Implementation



Scheduling model implementation using AVEVA USC Schedule

- ❖ Turnkey refinery scheduling model implementation project covering different project phases from KOM, data collection, FDS, model building, FAT, UAT, trainings, go-live, post implementation support.
- ❖ Excel based templates for baselining data.
- ❖ Support for custom scheduling reports.
- ❖ Unified environment covering integration with AVEVA Plan and AVEVA Assay.



Client – Bangchak,
Thailand

AVEVA

Partner – AVEVA

2017: Scheduling Model Implementation



Scheduling model development using Aspen Petroleum Scheduler (APS)

- ❖ Scheduling model development project for Petro Rabigh refinery and Petrochemical complex, Saudi Arabia covering KOM, data collection, FDS, model building, report generations, UAT, SAT, training, go-live and as-built document.
- ❖ Some of the highlights of the model are as below:
 - SMCs for refinery and petrochemical units
 - Configured #LP for FO blending
 - Inbound integration and custom reporting
- ❖ Project completed and signed off before time.



Client – Petro
Rabigh, KSA



Partner –
Accenture

2016-2018: PMC service



Project management consulting services - planning, scheduling, pricing & performance management

RIS (Refinery Information System) project scope covers integration and digitalization of multiple application for three ADNOC refineries:

- ❖ IZZIBS provided PMC services for data collection, design review (FDS/DDS), Factory / Site Acceptance Test (FAT / SAT), integrated FAT / SAT, Performance Acceptance Test (PAT), go-live workshop
- ❖ Inputs and testing of key data integrations
 - Planning (PIMS) reports automation
 - Pricing data to LP models
 - Scheduling (APS) output to Oil Movement Monitoring System
 - Integration between two Scheduling (APS) models
 - Plan vs schedule vs actual report
 - Performance management system (Honeywell TCD) testing



أدنوك
ADNOC

Client – ADNOC,
UAE



Partner –
TRUTECH, UAE

2022-2023: Scheduling Model Implementation



Multiple APS models for crude scheduling and logistics

- ❖ 5 scheduling model development using Aspen Petroleum Scheduler (APS) for 19 desks to manage the crude network
- ❖ Configure EIUs to create bulk events into APS
- ❖ Model and EIU testing and validation
- ❖ Desk wise training to schedulers
- ❖ 4 weeks hyper care support post go-live for each desk
- ❖ As-built and user guide documentation
- ❖ Integration support for APS with other applications



Client – Marathon
Petroleum
Corporation, USA



Partner –
Accenture

2018: Scheduling & blending SME Services



Subject matter expert (SME) services for scheduling & blending optimization

- ❖ Scheduling model development assistance for Aspen Petroleum Scheduler / Multi Blend Optimizer
- ❖ Design documents review and update
- ❖ Model testing and update
- ❖ ARW reports development and delivery
- ❖ Provided expert inputs for inbound and outbound integration to / from APS
- ❖ Support for model and integration SAT
- ❖ Onsite APS training delivery



PETRONAS

Client – Petronas,
Malaysia



Partner –
Accenture

2021-2022: Scheduling Model Implementation



Scheduling model update and delivery using Aspen Petroleum Scheduler (APS)

- ❖ Project implementation partner with Shell Global Solutions for integrated refinery and petrochem scheduling models project for ZPC, China.
- ❖ Project scope covers
 - Rigorous testing of already built APS model
 - FAT comment resolution
 - 2+ months long interactive SAT with client
 - Trainings
 - As-built and user documentation
 - Go-live workshop



Client – Zhejiang
Petrochemical
Corp, China



Partner – Shell GS

Custom scheduling model development

- ❖ Refinery wide scheduling model development using Microsoft Excel with custom scheduling logics.
- ❖ Single and multi grade of gasoline blend optimization using solver Add-In.
- ❖ Summarized inventory and product lifting data with chart visualization.
- ❖ Plan vs schedule vs actual comparison.
- ❖ Validation of the model with test cases.
- ❖ User guide documentation.



Client – Dangote
Oil Refinery,
Nigeria

2025-26: Petrochem and Polymer Scheduling



Petrochemical Scheduling Model – Aspen APS Polymer Scheduling model - Aspen PS

- ❖ Petrochemical Scheduling model development for SATORP AMIRAL Petrochemical complex fully integrated with Refinery model
- ❖ Polymer Scheduling model development for SATORP AMIRAL Polymer complex
- ❖ Scope not limited to KOM, data collection, FDS, DDS, model building, report generations, UAT, iUAT, training, integration support, go-live and as-built document.



Client – SATORP,
Saudi Arabia



Partner – Wipro

2024-2025: Scheduling Model Support



Scheduling model modifications support using Aspen Petroleum Scheduler (APS)

- ❖ Project implementation partner with Shell GS for modifications in scheduling model for two of the Shell's refineries in Rheinland.
- ❖ Project scope covers
 - Modification of existing APS models due to decommissioning of existing units like CDU, VDU, VBU.
 - Modification of SMCs for updated process units.
 - Modification of APS model to allow for new inter-site transfers between two refineries as part of major turnaround.
 - ARW and custom Report modifications
 - Rigorous testing of Model, Interfaces (for baseline update, Assay Import & Events Import) and Reports



Client – Shell
Energy, Rheinland



Partner – Shell GS

PMC for Integrated Management Systems (IMS)

Project scope covers PMC for scheduling models integration with IMS and other OQ applications:

- ❖ Define requirements for APS outbound integrations
- ❖ Design and provide technical inputs to Integration team
- ❖ IMS DDS review
- ❖ APS model review and define modelling changes required in APS model to meet integration requirements.
- ❖ SQL query development to extract scheduling & blending data required for IMS
- ❖ Participating in FAT, SAT and other testing phases of IMS project



Client – OQ, Oman



Partner – Tech Mahindra

2018: Scheduling Onsite Support Services



Onsite scheduling and blending model support for APS and MBO

- ❖ Provided technical and functional support for APS & MBO to utilize the system effectively.
- ❖ Supported modifications and testing related to APS integration data.
- ❖ APS model updates and ARW report modifications.
 - SMC update for process units
 - Crude assay updates
 - Scheduling logics in excel
- ❖ On-the-job training to schedulers for carrying out day to day activities.



Client – Yasref,
Saudi Arabia



Partner – Wipro

Scheduling and logistics training



2023

Bangchak Refinery, Thailand

3 days onsite classroom training for refinery scheduling and logistics with more than 20 participants.

2017

Dubai, UAE

A comprehensive and advanced training program on refinery scheduling and logistics system.



Consulting Services

Process Optimization & improvement studies



- ❖ Conduct profit improvement studies to optimize process and make it more efficient

Crude Basket Expansion

Optimize process unit operations / parameters

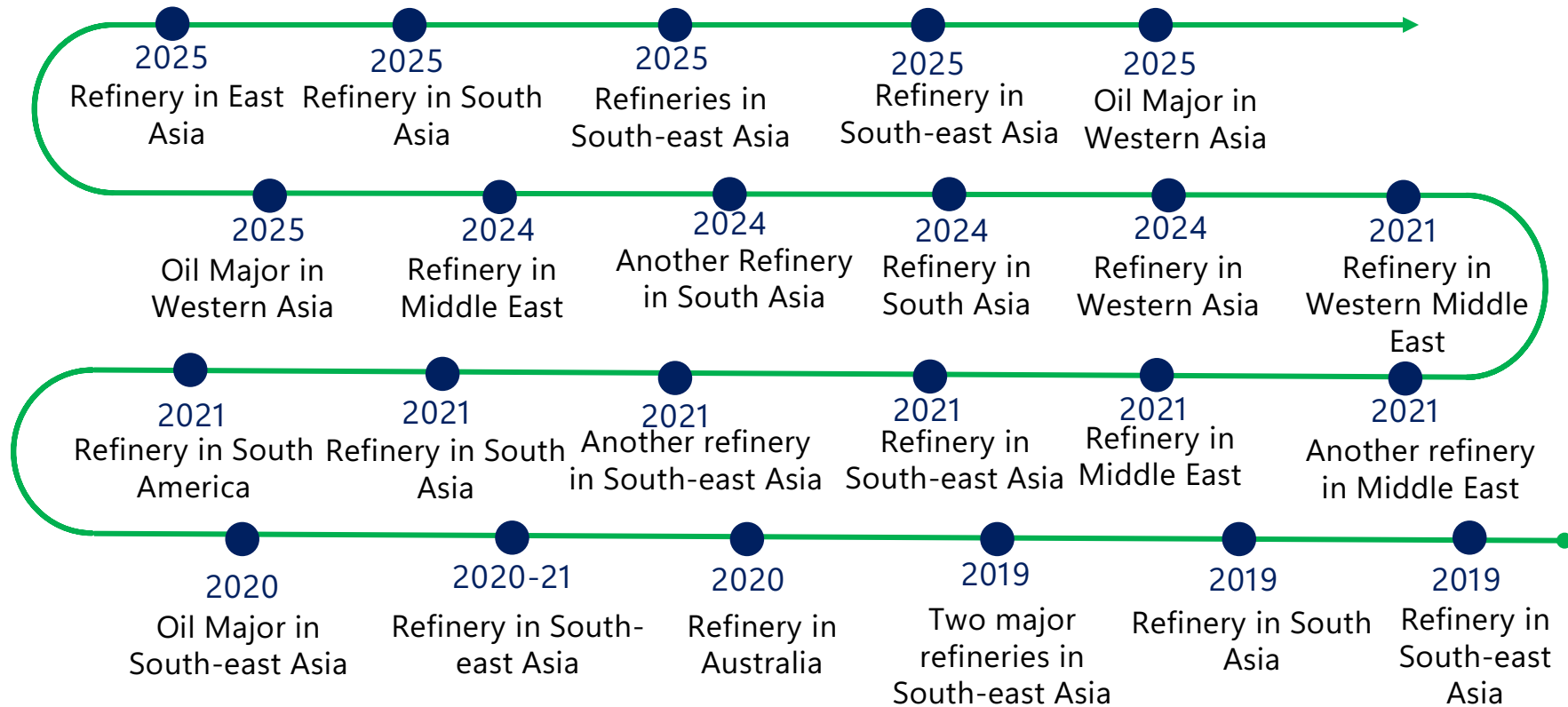
Stream Re-routing opportunities

Explore & evaluate new intermediate processing feasibility

Minimize QGA and Demurrage

Identify bottlenecks and solutions to deconstrain

Consulting assignments with McKinsey



Consulting study for AIL octane booster blending with Gasoline

To enhance the understanding of techno-commercial valuation of the AIL octane booster in gasoline from the standpoint of refinery users:

- ❖ Develop excel based optimization models for valuation of different commercial scenarios for different refinery and traders.
- ❖ Technical analysis:
 - Proposal of joint studies with Refineries.
 - Conduct lab tests with AIL octane booster blends in gasoline sample to evaluate the impact on key specs.
- ❖ Commercial value analysis:
 - Develop pricing correlation.
 - Evaluation of octane enhancement with AIL octane booster
 - Evaluation of naphtha upgradation with AIL octane booster
 - Evaluation of Methyl tert-butyl ether (MTBE) vs AIL octane booster
 - Evaluation of Pyrolysis Gasoline (Pygas), Naphtha and AIL octane booster



Client – Aarti
Industries Ltd.,
India



Process Modelling and Simulation

Technologies

- ❖ Build, review and update rigorous steady state process simulation model
- ❖ LP vectors generation for LP models
- ❖ Re-calibration of rigorous steady state simulation models
- ❖ Facilitating and conducting test runs

- Aspen Hysys
- Aspen Plus
- KBC Petro Sim

Hexane Extraction Unit – Debottlenecking & Yield Optimization

- ❖ Developed and validated a simulation model in KBC Petro-SIM, to enhanced n-hexane recovery and improve energy efficiency by optimizing the Hexane Extraction Unit.
- ❖ Optimized the Hexane Stripper by reducing reflux rates, lowering reboiler heat duty while maintaining product quality.
- ❖ Mitigated flooding issues in the Hexane Rectifier at high feed rates by increasing column pressure and fixing reflux rate.
- ❖ Aligned and tuned simulation results with historical plant data for model accuracy.
- ❖ Conducted scenario-based analyses to evaluate unit performance across varying feed and operating conditions.

Client – McK
client, India

McKinsey
& Company

Partner –
McKinsey &
Company

2024: Simulation Model Support



Simulation model tuning & integration using KBC Petro-SIM

- ❖ CDU Refinery plant simulation model tuning using KBC Petro-SIM.
- ❖ Simulation Model integration with third party historian.
- ❖ Two separate simulation models were developed as following:
 - One model for calculating fouling factors of heat-exchangers where crude side temperatures are defined from historian tags.
 - Second model to simulate the exchangers with fouling factors and running the various scenarios for e.g., the effect if one or more heat exchangers are bypassed.
- ❖ Two separate excel files are built to integrate the data from historian to the simulation model and run the model from excel.
- ❖ Simulated scenario with optimized crude exchanger shuffling based on pinch technology principles to enhance process efficiency.

Client – McK
client, India

McKinsey
& Company

Partner –
McKinsey &
Company



Manufacturing Information System

- ❖ Production accounting system
 - Data integration with production systems such as oil movements, LIMS, ERPs and web based manual forms
 - Production accounting / reconciliation
 - Customized reporting
- ❖ Oil movement systems
 - Production tracking, monitoring, trending, controlling and analyzing oil movements
 - Integration with scheduling and production accounting

Technologies

- AVEVA Production Accounting
- Aspen Operations Reconciliation and Accounting (AORA)
- Aspen Unified Reconciliation and Accounting (AURA)
- Aspen Tank and Operations Manager (ATOMS)



Digitalization

- ❖ Centralized data management system
- ❖ IT-OT application data integration
- ❖ Enterprise application architecture design
- ❖ Process data historian and analytics
- ❖ Dashboards - Self-service, interactive & role-based
- ❖ Reports automation - on-demand & auto-generated
- ❖ KPIs, notifications & asset performance management
- ❖ Digital logbook - operations & maintenance

Technologies

- inSis Suite
- Aspen Inmation
- Aspen InfoPlus.21
- Custom Data integration

2018-2019: Digitalization Implementation



Implementation of refinery wide digitalization solution

Implementation of the digitalization solution using Jaajitech inSis Suite to automate the Reports, create real-time Dashboards, KPIs and Alerts:

- ❖ Manufacturing Information System (MIS) reports automation
 - 35+ reports
 - Process monitoring, daily refinery operation report, etc.
- ❖ 200+ refinery KPI management
 - Operations, process, safety, reliability etc.
- ❖ Role based dashboards & data analytics
- ❖ Refinery Process Information Centre Portal (RPIC Portal)
- ❖ Email/SMS alerts and notifications
- ❖ Mobile access view



Client – Nayara
Energy, India



Partner – Jaaji
Technologies,
India

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