

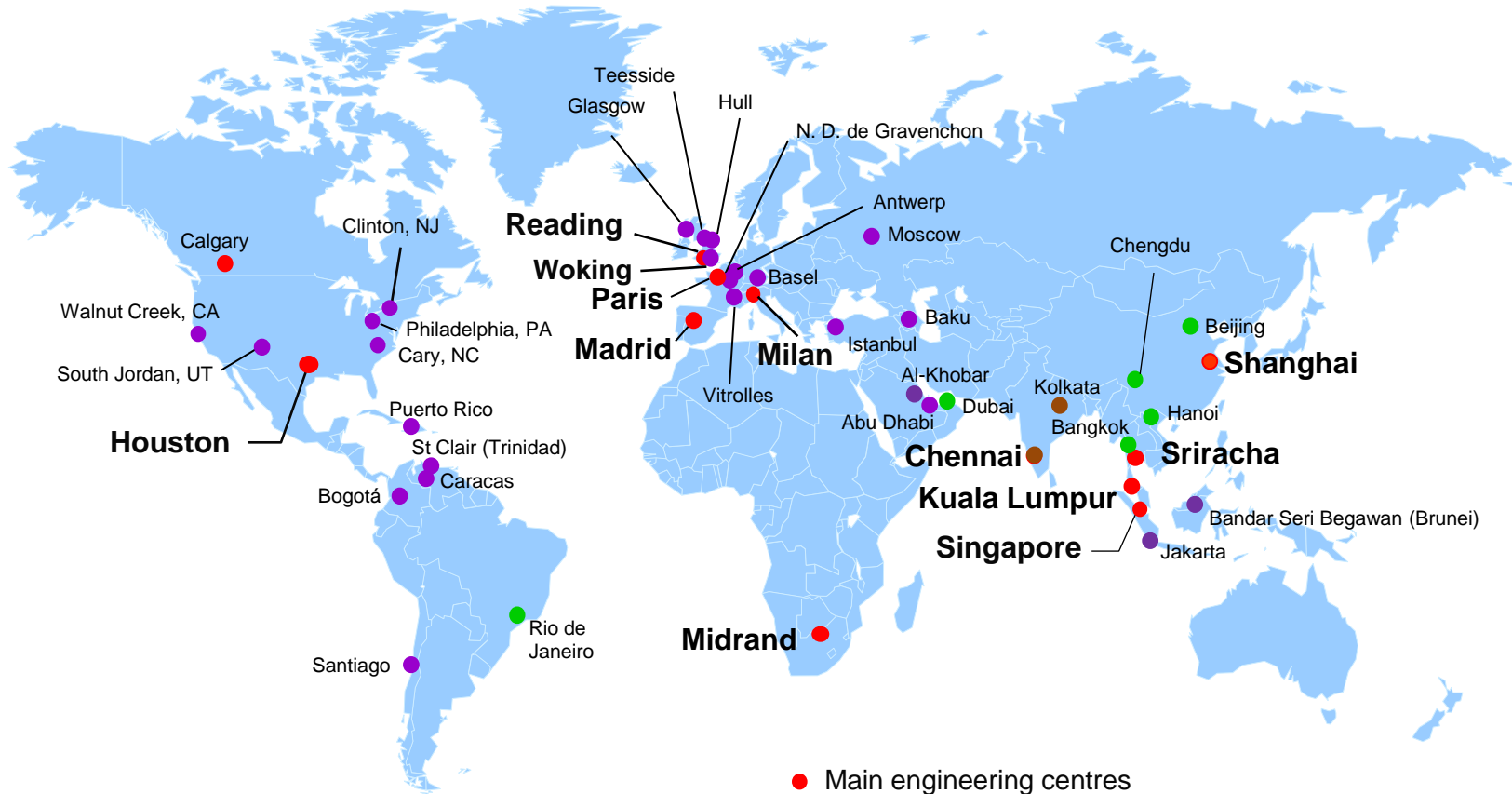


Project Engineering, Procurement and Construction in Russia

Andrei Kalyuzhnov
General Manager, LLC Foster Wheeler

Global E&C Group

Approximately 10,000 E&C personnel world-wide



Russian Experience - Timeline

1932-1947
Amtorg -Grozny
Trading
First Project in
Russia

1979 -1985
 Techmashimport
 Mashinoimport
 Shell Chemicals
 Russia

1996 – 1999
 Lukoil –Rostovnefttechimproyekt
 Permnefteorgsyntez
 Turkmenbashi Refinery
 Nizhnekamsk Refinery
 Yakutgazprom
 Belmed Insulin Injectable Plant
 TONAR Waste to Energy Study
 Norski Oil Refinery

2004 – 2008
 Turkmenbashi Refinery
 Nizhnekamsk Refinery – FEED/PMC
 OCA Alliance Khabarovsk
 Salavatnefteorgsyntez
 Naftan Novopolotsk Refinery
 JSC Nizhnekamsk Refinery
 Ufaneftekhim Refinery
 Ukrtatnafta, Kremenchug
 TNK-BP Ryazan Refinery – PMC,
 Tech Diligence and Feasibility Study
 Mazeikiu Nafta Refinery
 Kazmunaigaz – Kazakhstan
 Odessa Refinery
 Servier Safimo - OSD Facility
 Novokiubyshevsk Refinery
 Taneco Nizhnekamsk

2010 – 2011
 Turkmenbashi Refinery
 Sasol – GTL Feasibility – Uzbekistan

Compra Energy – Azerbaijan
 Siirtec NIGI / Gazprom
 Naftan Refinery DCU
 Marisky Refinery Expansion– FEED
 TAIF NK
 Ufaneftechim
 Novoil
 Rosneft-Achinsk Refinery
 Mozyr Refinery
 Novokuibyshevsk Refinery
 Rosneft Syzran Refinery
 Omsknefttekhinproekt for Atyrau -HPU
 OCA Alliance Khabarovsk
 Antipinsky Oil Refinery Crude heater
 Ministry of Energy Petrochemical Study
 TNK-BP Ryazan Refinery VDU heater

80 YEARS AND COUNTING

1967 -1978
 Techmashimport
 Russia/Ukraine/
 Uzbekistan

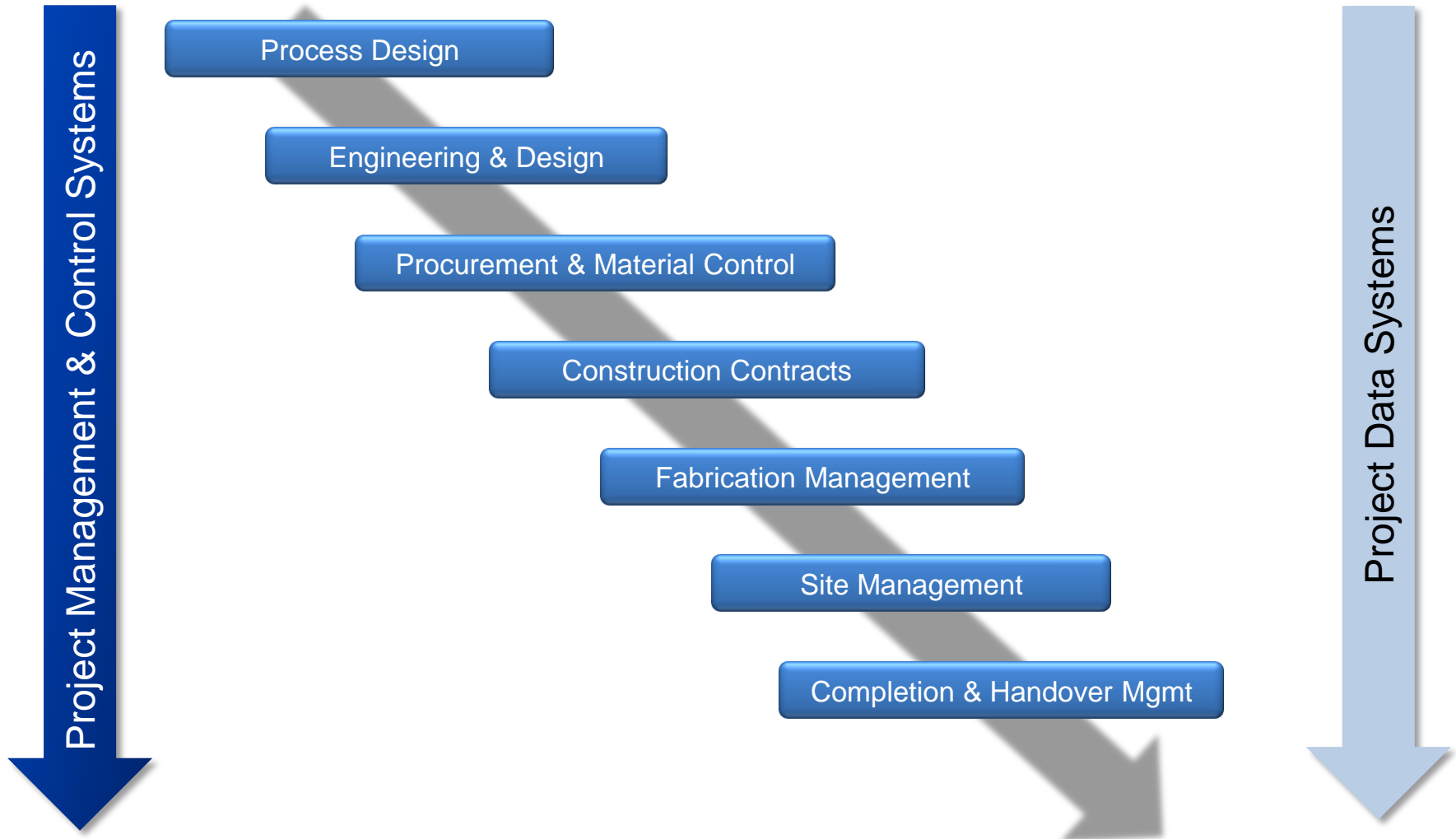
1992 – 1995
 Novokuibyshevsk Refinery
 Mazheikiiai Refinery
 Merloni Progetti
 Yamburggas
 Novo-Ufimsky Refinery
 Kremenchug Refinery
 Novokuibyshevsk Refinery
 Novomendelevsky Chemical Plant
 Lukoil - Permnefteorgsyntez

2000 – 2003
 Lukoil – Petrotel / Neftochim
 Mozyr Refinery
 Turkmenbashi Refinery
 UKSOIL – Latvia
 Yakutgazprom
 NizhnekNeftochim
 Norilsk Nickel Plant
 RVO Zarubzhneft
 Slavneft – Yaroslavnfteorgsyntez
 Shell – Salym
 TNK – Ryazan Refining Co
 Nishnekamsk Refinery
 Rosneft-Tuapse Refinery
 VietRoss Refinery
 Rossiyskiy Insulin
 Slavneft – Yaroslavnfteorgsyntez
 Shell – Salym

2009 – 2010
 Lukoil Nizhegorodnefteorgsintez
 OC Alliance – Khabarovsk
 Taneco FEED
 Slaveneft Yaroslavl HPU
 Ufaneftechim DCU & HPU
 Naftatrans – Krasnodar
 ONGC Sakhalin
 Tukmenbashi Refinery DCU
 Mari El Refinery FEED
 Wissol
 Mozyr Refinery
 Novoufimsky Refinery
 Shell –LNG Modularization
 Rusvynil -VCM PVC study
 Shtokman – Development of STC

2012 -
ONGOING
 Rusvynil – JV Solvay & Sibur
 OSPL Facilities
 GAZprom Nefttechim Salavat H2
 Antipinsky Oil Refinery-DCU
 Marisky Refinery - DD vs FEED
 Rosneft Novokuybishevsk
 Menarini Berlin Chemie- Kaluga
 Orsk Refinery – Visbreaker
 Zarubezhneft Brod - H2
 CDU/VDU/Gas plant PDPs and
 FEED and DD CORU for Moscow
 Refinery (Gazpromneft)
 Eurotek – FEED and DD for BCS
 FH – various Clients

Project Delivery Model



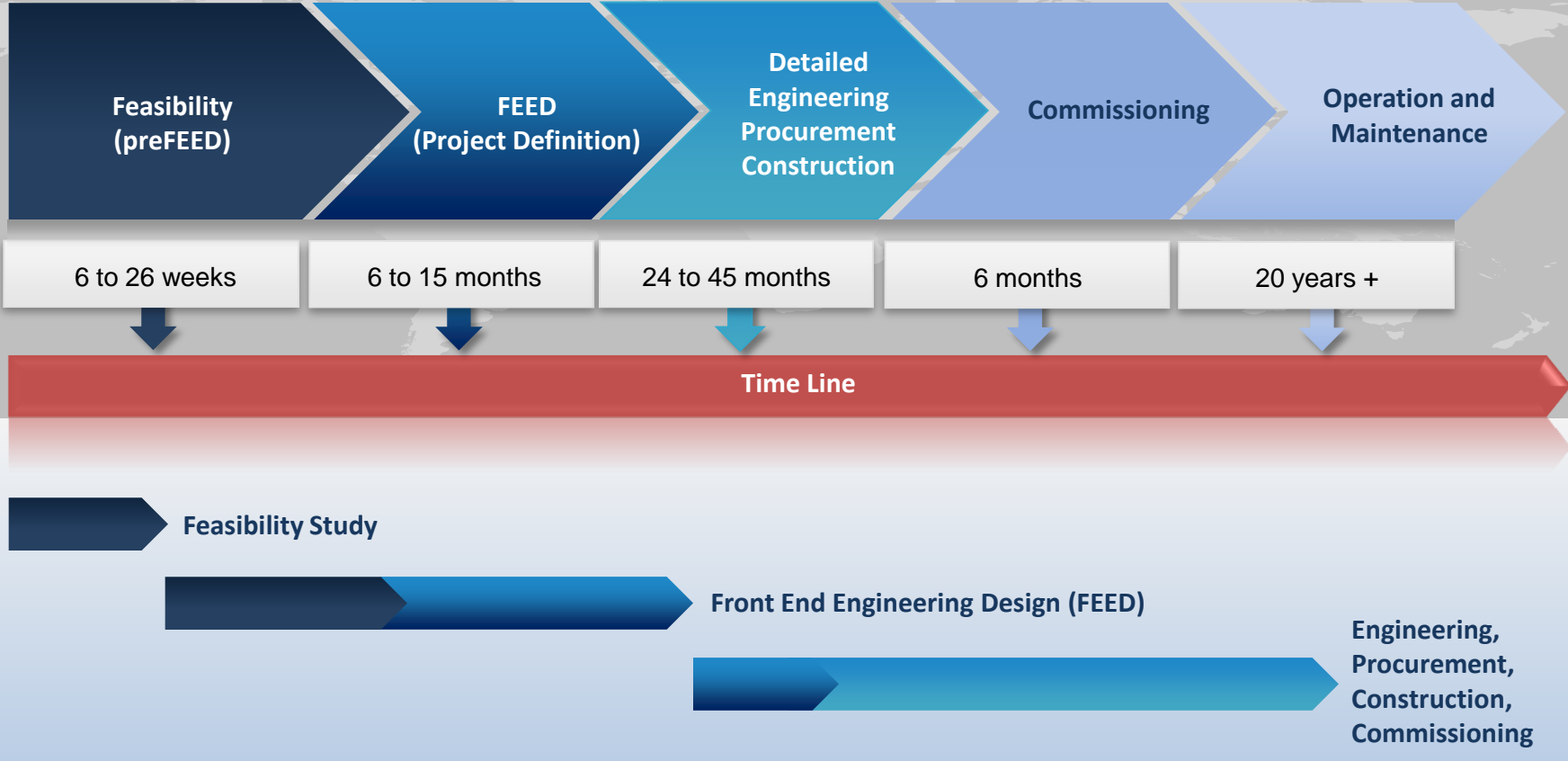
Western EPC Contractors work in Russia

Common challenges

- Well established and mature “Russian design and project execution style”
- Difficult to recognise the “reimbursable” concept, most projects are Lump Sum
- Time and schedule of project implementation represent an issue
- ITBs require provision of documentation and prices in a very short period, in Russian
- Construction used to be always local, now some changes start to occur
- Most Clients do not speak any foreign language
- Changes of written and unwritten rules and regulations

Phases of Project Delivery – Critical Issues

The cornerstone of any capital project is the preFEED study



Downstream Sector – Scope of Work division

The established project development steps for a complex downstream project in Russia are:

- Feasibility Study and Basic Design Package by Western Contractor
- then Engineering (DD and WD) by local RDIs,
- Material Procurement and Construction managed directly by the final Owner

Traditional segments of work executed by Western Engineering Companies

Feasibility Studies

Licenses

Consultancies

Basic Design Packages

PMC

Specialist Equipment supply

Downstream Sector – Scope of Work division

Engineering Volume of Work

10%

FS => PDP => PMC

These activities are done in accordance to the Western philosophies and norms and not much affected by the Russian Rules. They can be managed more or less independently by Western Companies

90%

FEED => Detailed Engineering

Activities on these stages are heavily affected by the Russian Rules and Norms

Western Service Companies – Downstream Sector

Emerging segments of work for Western Contractors - combination of Western and Russian execution steps

FEED + DD (former SP)

EPC steps:

Advanced Engineering

E + WD

Ps

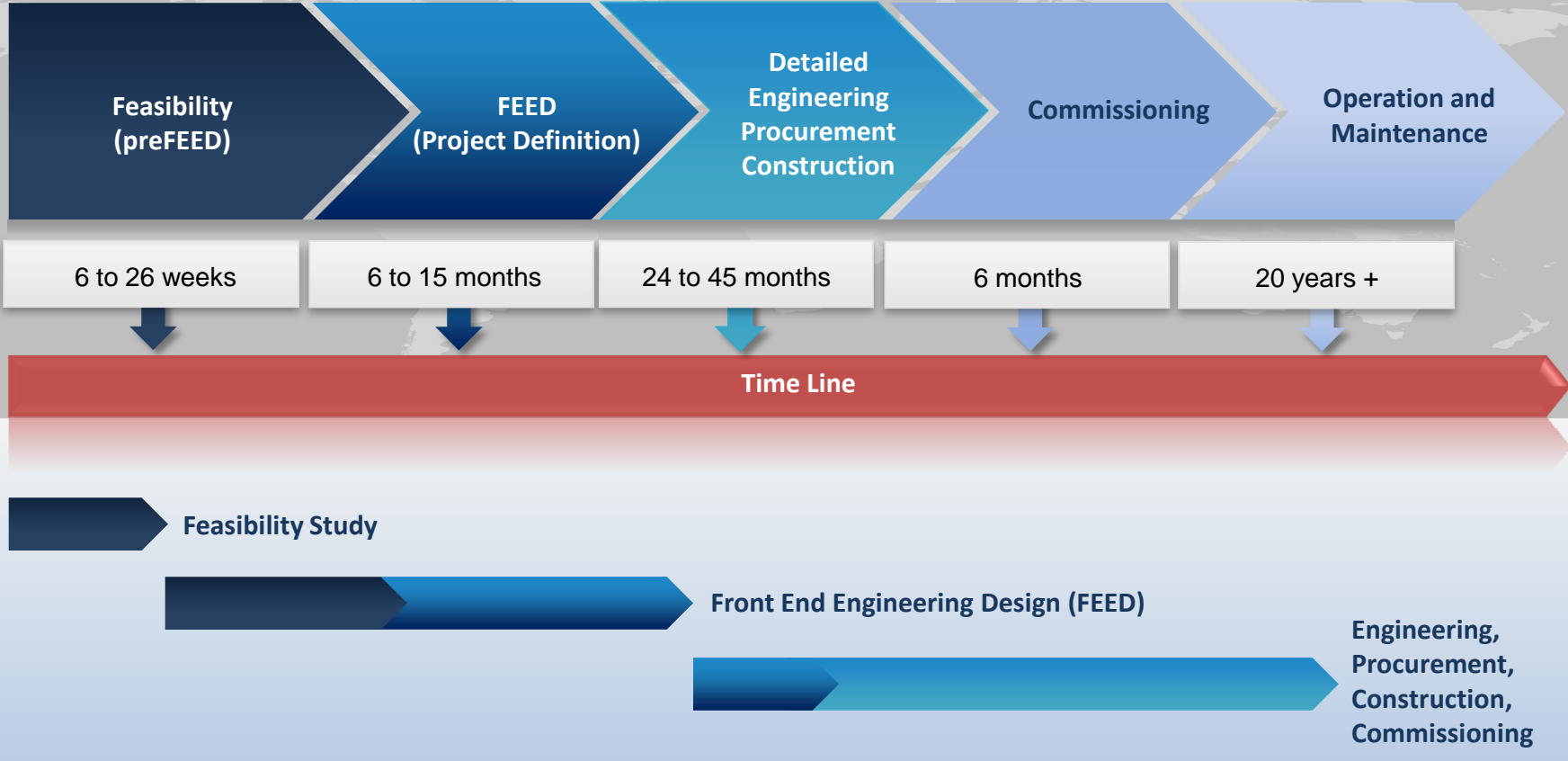
(E+WD)PsCm

EPCm

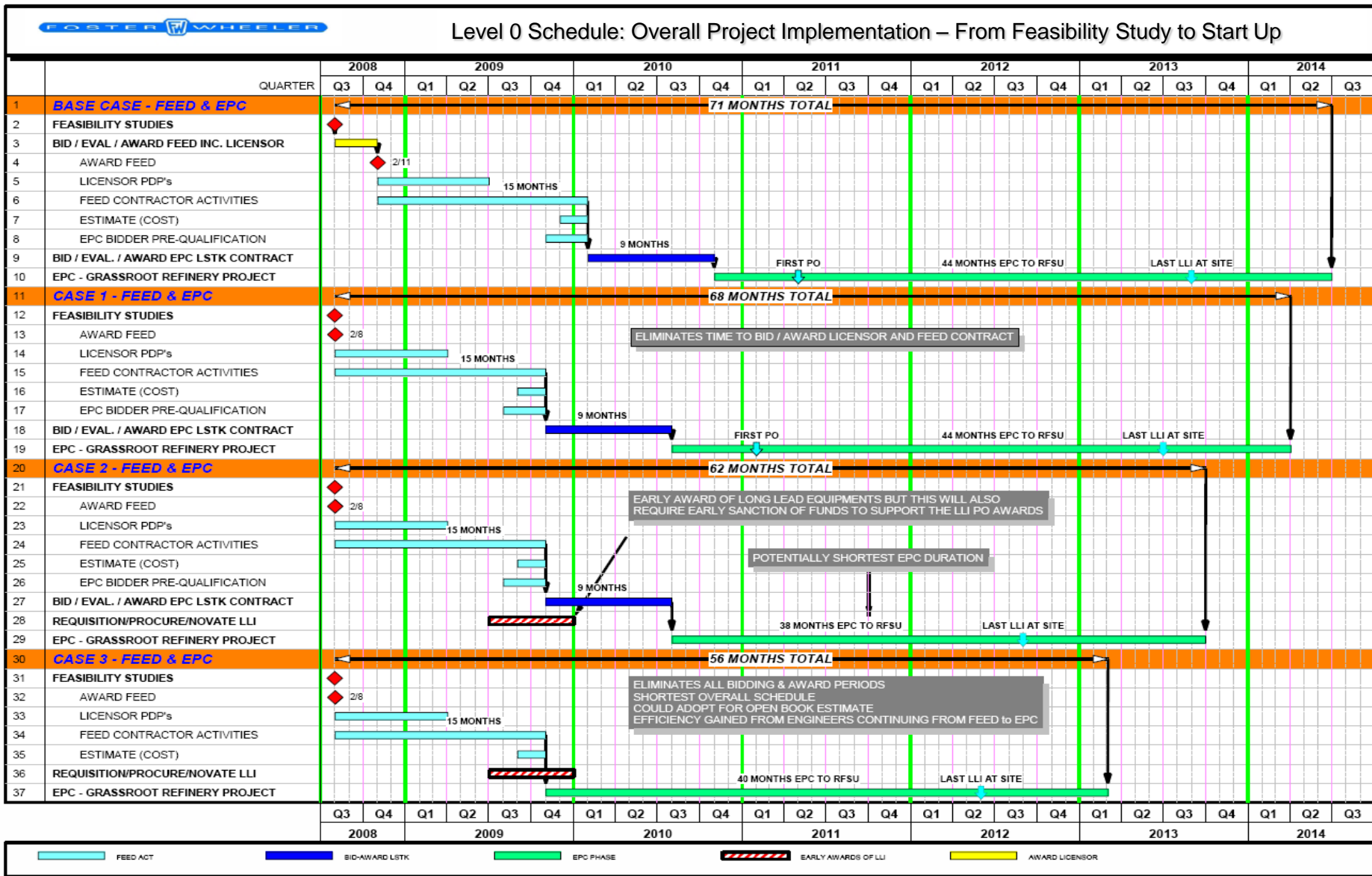
EPC

Phases of Project Delivery – Critical Issues

The cornerstone of any capital project is the preFEED study



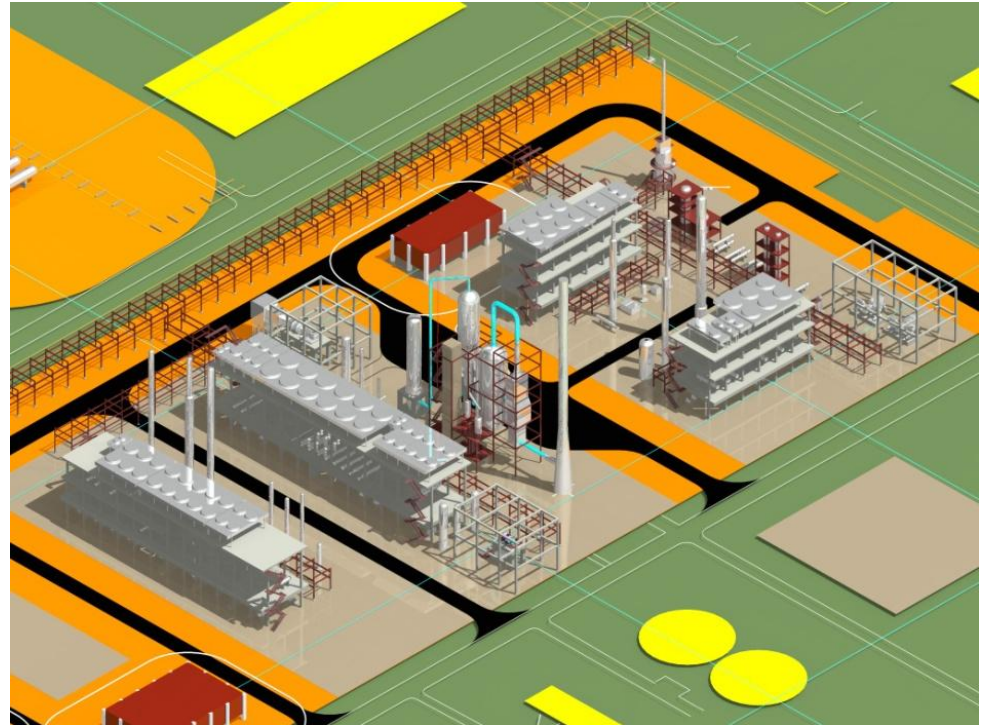
Overall Project Implementation Plan



Selected Key Recent Projects in Russia

Salavatnefteorgsyntez

- Project Description:
FCC Complex
- Years 2004-2005
- Scope:
 - Basic Design Package
 - FEED
 - Studia Proect
 - PMC
 - Beneficial Engineering





INTEGRITY
ACCOUNTABILITY
HIGH PERFORMANCE
VALUING PEOPLE
TEAMWORK

A graphic featuring a globe with several colorful silhouettes of people standing on it. The globe is surrounded by a series of colorful, curved lines that wrap around it, creating a sense of motion and global reach. The text 'OUR CORE VALUES DEFINE THE STANDARDS OF BEHAVIOR FOR EVERY EMPLOYEE IN FOSTER WHEELER' is positioned at the bottom right of the graphic.

OUR CORE VALUES
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OF BEHAVIOR FOR
EVERY EMPLOYEE IN
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