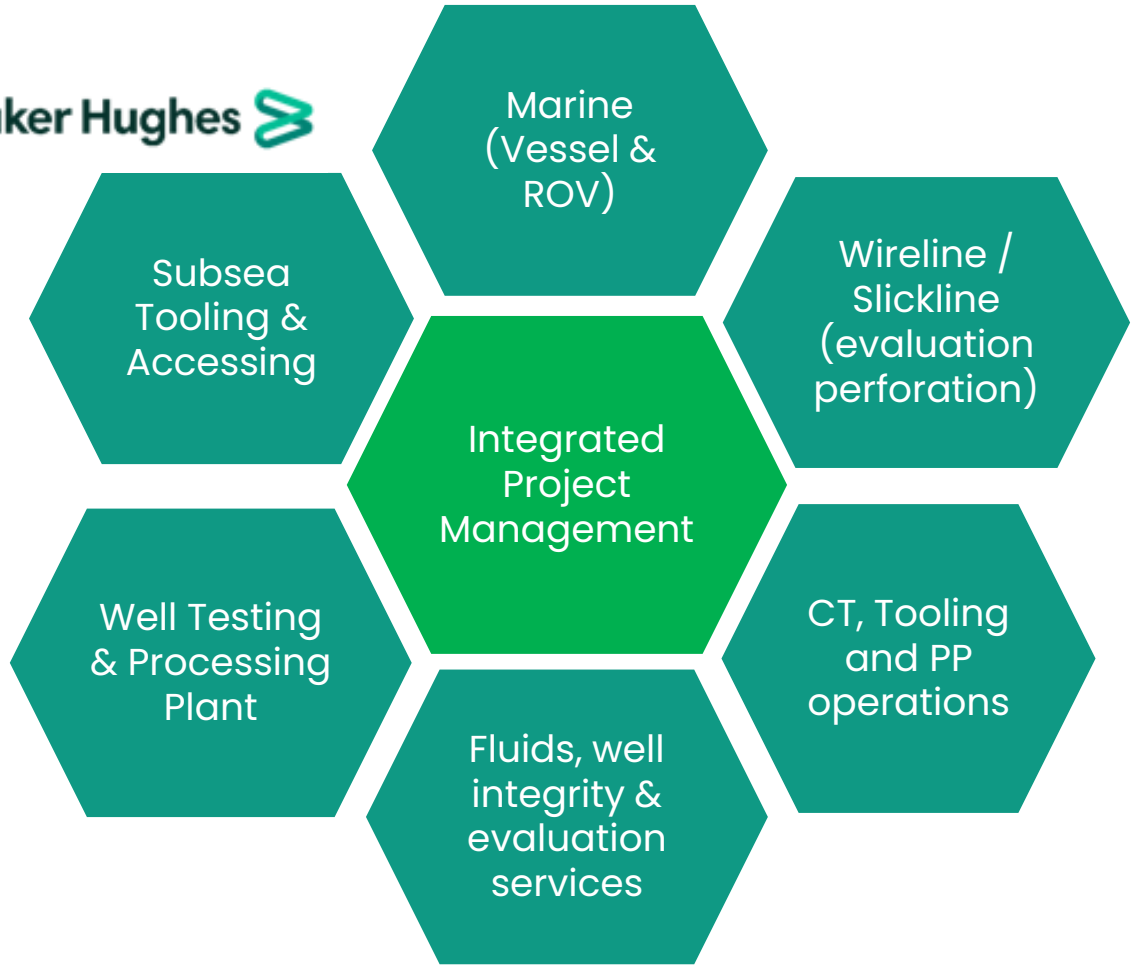
Agnostic Tooling i.r.t. Rigless Well Decommissioning

SPE Aberdeen – Well Decommissioning 2023

Wells in the future – late life & Decommissioning

Karin Bol
Strategic Operations Leader
Growth Hub, OFSE

Project Overview



- Tooling development for P&A campaign in Brazil
- Development of modular intervention tools to allow intervention on installed BH and 4# other OEM's XTs and stand-alone 117 wellheads
- Age of Subsea equipment mostly 30+ years old
- Ambitious project schedule: 11 months from contract award to first equipment delivery
- Unknown condition of subsea equipment
- Changing requirements during design phase
- Gaps in technical documentation from other OEMs, missing critical dimensions & tolerances

Baker Hughes

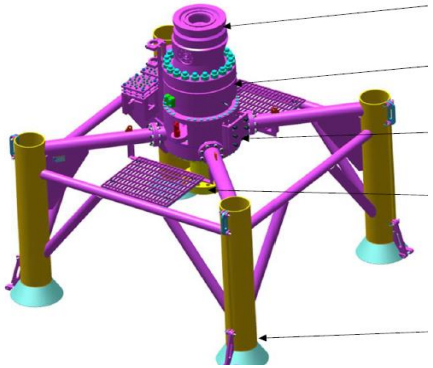
Adaptable. Agile. Agnostic.

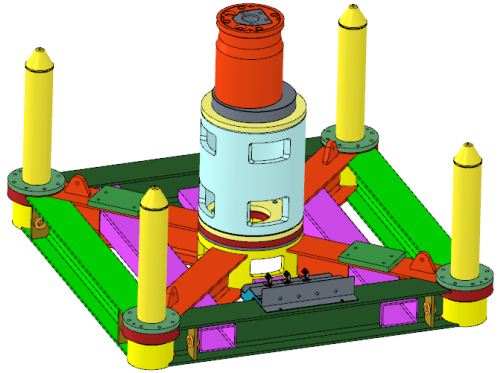
Simplify and optimize life of field tooling requirements

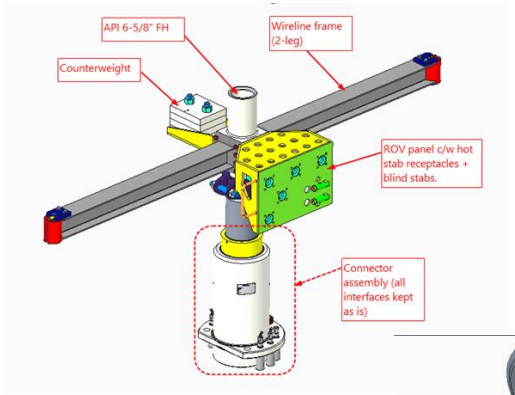
Tooling can be adapted to multiple well types and functionality targeted to operational requirements.

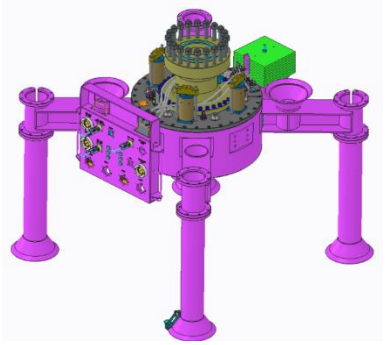
Suit multiple well types & functionalities through modular approach to design

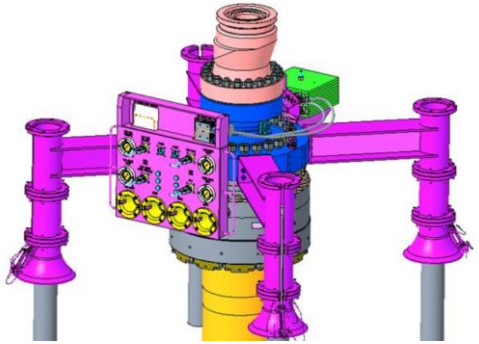
Requirements and design solutions

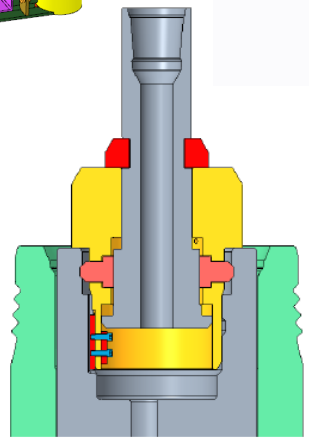


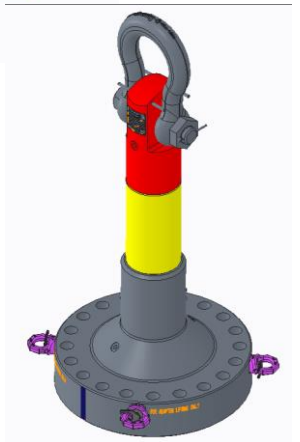












XTRT Group 002
- 2 interfaces tool
- 12 BH wells

XTRT Test & transportation skid
- 3 mandres sizes in one tool
- One size frame fits all
- Modular design

Tree Cap
Runnning & Retrieval tool

4 x Riser Adapters
One common top interface for all
Bottom interface and bores
alligned with various wells req.

XTRT Group 001
- 8 Interfaces tool
- 3 OEM's
- 39 wells

XTRT Group 003
- 3 interfaces tool
- H4 CPI connector
- 14 wells

Tubing Hanger
Mechanical RunningTool
- 4 OEM's
- 5 tools for Multiple wells

XTRT Test & Handling cap
One tool for all intervention tools

Baker Hughes

Agnostic Tooling

Consolidation of tools into fewer modularized Units

Supports a range of life of field operations on subsea XTs and THs

Ability to adapt or reconfigure tooling for any OEM

Enables to target specific functionality requirements

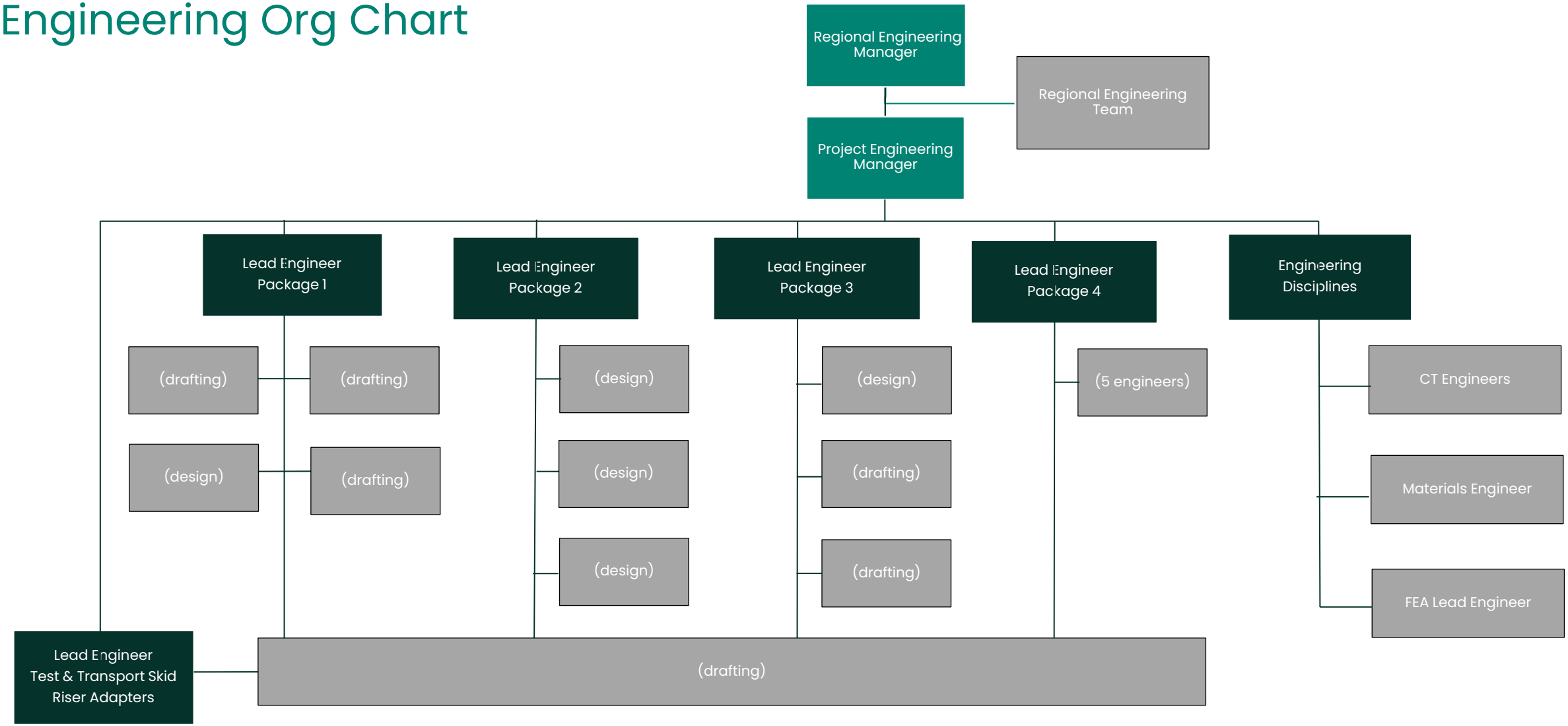
Flexibility in tooling configuration during offshore operations

Fewer tools result in a reduced Carbon Footprint

Less tools mean reduced overall manufacturing risk exposure and -cost

Significant reduction in number of technical interfaces to manage

Engineering Org Chart



Outsourcing as required

Project Successes

- **Operations successfully started in October 2023**
- **To date 3 sets of tooling have been delivered: 10 top-level tools and supporting equipment**
- **An estimated 50% reduction in total subsea tooling costs**
- **Consistent & focused engineering team throughout the project: ~ 30 engineers, zero attrition or engineers moved out**

Project Lessons Learned

- **Upfront design phase is KEY and for this reason takes longer than usual (invest at the start to obtain the optimum outcome)**
- **Plan sourcing of the long lead items as early in the process as possible as this is a critical aspect of the process**
- **Assign dedicated engineering leads to miscellaneous sets of tools and have close communication between the different engineering teams**

Baker Hughes

Baker Hughes