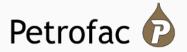
LEVERAGING OUR IN-HOUSE TALENT AND EXISTING SYSTEMS

Helen Riach Lead Digital Analyst, Petrofac

7 November 2023

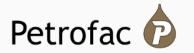


Our digital journey



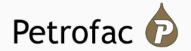
Enabling Petrofac to deliver high quality, high value outcomes for our clients through the appropriate adoption of the right digital solutions and the transformation of how services are delivered. Moved two well established inhouse software applications under the Digital umbrella Petrofac Board and Senior Establish internal capability Transformation Road Map Leadership support for digital Complete 2nd Phase development as a key strategic pillar for the Commence industrialisation of Focus on digital delivering future of Petrofac 1st phase solutions becoming the norm 2018 2019 2020 2021 2022 Current Complete 1st phase Deepening and widening industrialisation Fundamentals, Ideation, adoption of digital solutions 2nd phase development **Exploration and Initial** Leveraging supply chain to Digital ecosystem in place **Proof of Value** add capability into our Islands of adoption ecosystem 100% on-time project delivery 50% lower roject cost 50% lower lifting costs Petrofac 🔞 100% on-time project 100% uptime assets

How can digital benefit the energy transition?

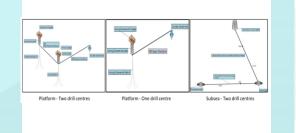




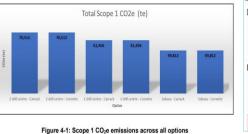
Digital enabling the energy transition



Enabling decisions through data driven insights which enable minimisation of environmental impacts Lifecycle emissions forecasting across the design stages providing insights on the environmental impact



Leveraging data (industry, supplier, project, operations) through data platform, data science and analytics Visualising energy usage and emissions data, cross correlation with operational metrics supporting optimisation





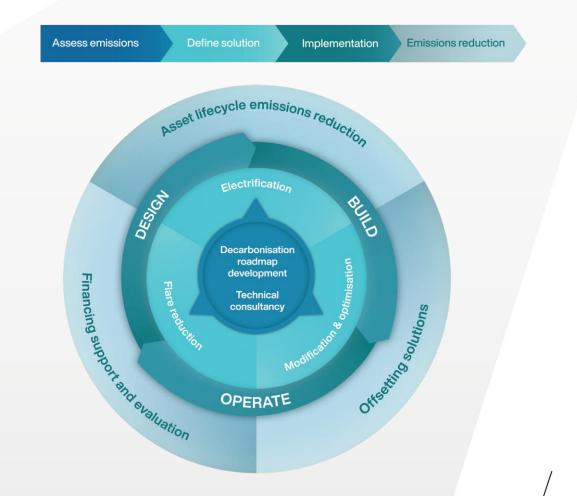


Emissions and energy management

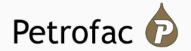


Developed by Petrofac the **Emissions and Energy Management tool** provides a capability which enables emissions management across the asset lifecycle, reporting on Scope 1,2 and 3 emissions.

- For Greenfield developments:
 - Accurate predictions of carbon footprint of a planned development
 - Calculated over its entire operating lifecycle
 - Generates costed engineering solutions
 for quantified performance enhancements
- For Brownfield assets:
 - Real-time emissions monitoring capability
 - Data extracted at component level
 - In-depth understanding of asset's performance and how it could be enhanced, either through amendment to operating procedures or equipment modification



The problem statement

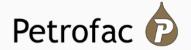


During the design phase we want to:

- Run various scenarios with different design criteria (steel, concrete, fuel usage, imported electrical power, flaring etc)
- Compare the relative emissions forecasts to take these into account alongside cost, schedule etc. when making our design decisions.



The solution selection process



Requirements gathering, basis of design and solution selection process

Off the shelf application, readily available on the market





Apply one or more of our portfolio

of existing digital capabilities

Build a new digital solution







TurusTM – what can it do for me?

Turus simplifies the project management journey by bringing a new level of

standardisation, control, visibility, transparency and assurance to projects.

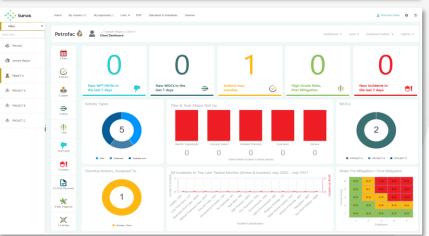
Risk and opportunity management

- Assign actions to risks, opportunities and other items
- Light touch to full suite

ТМ

- Permission-controlled external access
- Supports the 'one-team' ethos
- Facilitates project oversight
- Simple project interface
- Internal dashboards bring data to life
- Data in Petrofac's data lake for internal reporting
- Manage your end-to-end delivery process
- Repeatable, standardised methodology
- Designed to be used by any business type in any industry sector completely configurable

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t Activity Type-	6	Corporate Level / Europe and Africa Region Action Grid				Europe and Africa Main Dashboards • Grids • Options
: Final Grade	Add	View Copy • Delote Layout	• Show/Hide • Export POF Term. POF Regis	ler_		
ns Discipline	Drag a co	lumn header and drop it here to group by that column				
11	AL	Name	Description	Discipline	Due Date	Breadcrumb
ctive Only Vie		Completion Services cost est	Completion running package and personnel cost est	Completions and Testing	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
iter		Completion Services RPQs	RFQs for Wall Testing	Completions and Testing	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		Completion Services RFQs	RFQs for WBCU.	Completions and Testing	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
Corporate Level		Combined Conveyance Services and Equipment RFQ.	RFQs for Combined Conveyance Services (Wireline-Sickline-CT & Pump	Completions and Testing	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		Wellhead and Xmax Tree Tooling Requirements	Develop tooling list and Vendor to quote for services for 2022 well carry	Trees, Wellheads and Subsea	FH 16/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
Europe and Africa >		5-1/2" Liner TD Options Review	Identify and review options for minimising AHD of Devorian drilled / rat	Drilling	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		Drilling Bits Review & Selection	Conduct vendor evaluation: 1.ITT / RFQ.2. Evaluation 3. RTA	Drilling	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
Koupard Ol & Gas		Drilling Risk Register	Update drilling register and expand as working through Define. Hold bi-	Drilling	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Neld / Well A1 / Well A1 Original Drilling / Action
		Directional Drilling Vendor Selection	Conduct vendor evaluation: 1.ITT / RFQ 2. Evaluation 3. RTA	Drilling	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Action
		Cementing Vendor Selection	Conduct vendor evaluation: 1.ITT / RFQ.2. Evaluation 3. RTA	Drilling	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		Drilling & Completion Fluid Vendor Selection	Conduct vendor evaluations 1. ITT / RFQ.2. Evaluation 3. RTA	Drilling	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		Well Trajectory	Update well trajectory based on output of subsurface target review. Exp	Drilling	FH 16/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Action
		Client Document Name Charge	Client has rebranded from X000 to X000. All WOPS and other document	Well Integrity	Tue 01/06/2021	Corporate Level / Europe and Africa / Russell Energy / O&M Campaign / Actions /
		Tractor perforating guns conveyance	Review options to convey perfiguns at c70-00deg across Piper sands. Ac	Completions and Testing	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		CT milling and perforating design	CT contingency to mill out cement from liner shoe track. CT contingency	Completions and Testing	FH 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		Rig Assurance	Rig Strategy and Assurance Plan	Project Management	Fri 31/12/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		Gas Uft Design	Progress gas lift design to establish mandrel setting depths and valve so	Completions and Testing	Wed 30/06/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Action
		Completion Installation Services	Identify required installation services and progress required $\rm ITT/BPQ$ pr	Correplations and Testing	Wed 30/06/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Action
		Risk Register Update	Review and update completion risks, update outcomes in terms of new R	Completions and Testing	Wed 30/06/2021	Corporate Level / Europe and Africa / Russell Energy / Jil Field / Well A1 / Well A1 Original Drilling / Action
		Completion Fluid design	Review and finalise completion fluid requirements in terms of completion	Completions and Testing	Mon 31/05/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		Plaw Control design	Review flow control requirements in terms of hipple profiles. To assist in	Completions and Testing	Fri 30/04/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Neld / Well A1 / Well A1 Original Drilling / Action
		Setting depth for SCSSV	Obtain Hydrate curve for well and agree on optimum SCSSV setting dep	Completions and Testing	Mon 31/05/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Action
		Perforation design	Review perforating options for well. Prepare short RPQ process to determ	Completions and Testing	Mon 31/05/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Actio
		CTCG requirements	Assist in RFQ process to finalise production tubing and pup joint require	Consisting and Testing	Mon 21/05/2021	Corporate Level / Europe and Africa / Russell Energy / Jill Field / Well A1 / Well A1 Original Drilling / Action

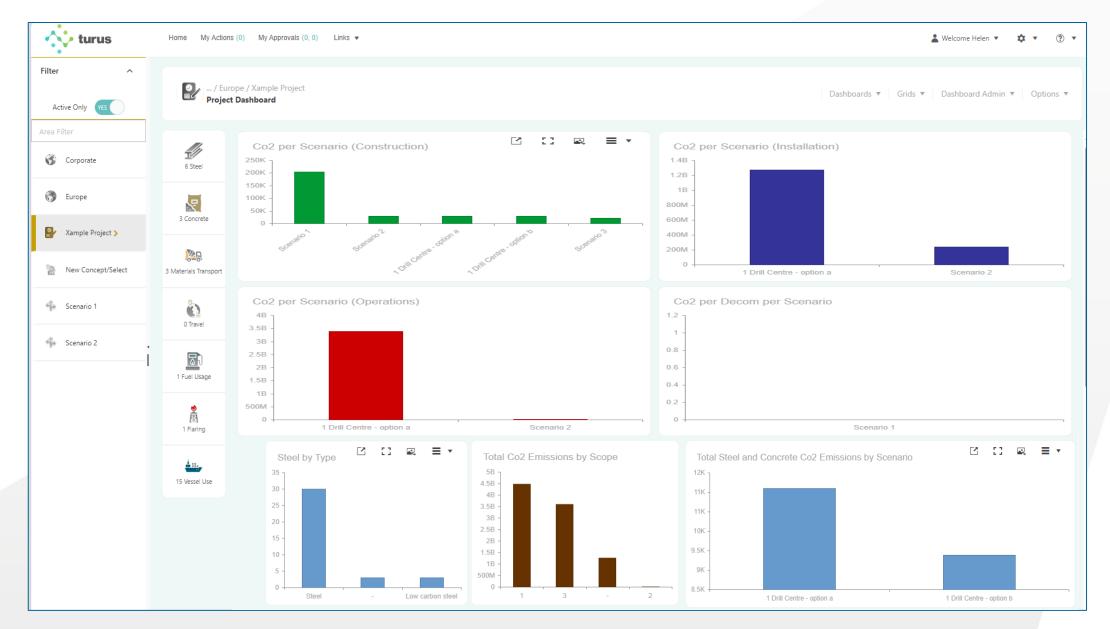






Emissions forecasting tool

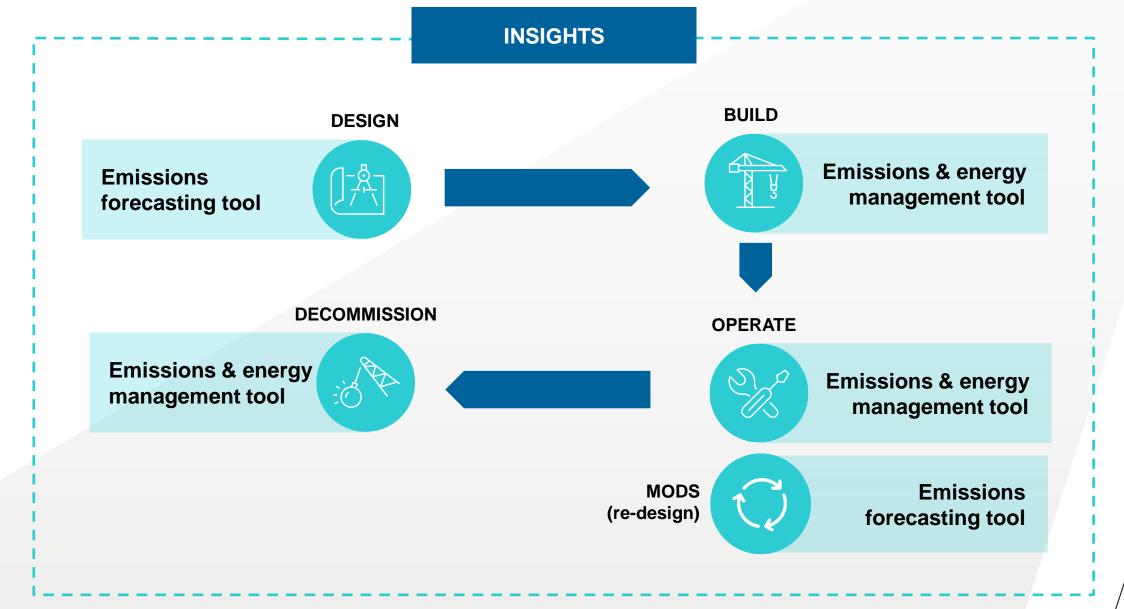




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Emissions & energy management digital suite





In summary



The answer sometimes lies in unexpected places!

- Involve all your stakeholders when reviewing digital options - make sure everyone has the opportunity to input
- Software developers are stakeholders too
- Harness your internal talent
- Aim to minimise the number of applications in your armoury – rule out before adding in
- Look at your internal applications and solutions (potentially with a twist) before going external

Thank you

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