

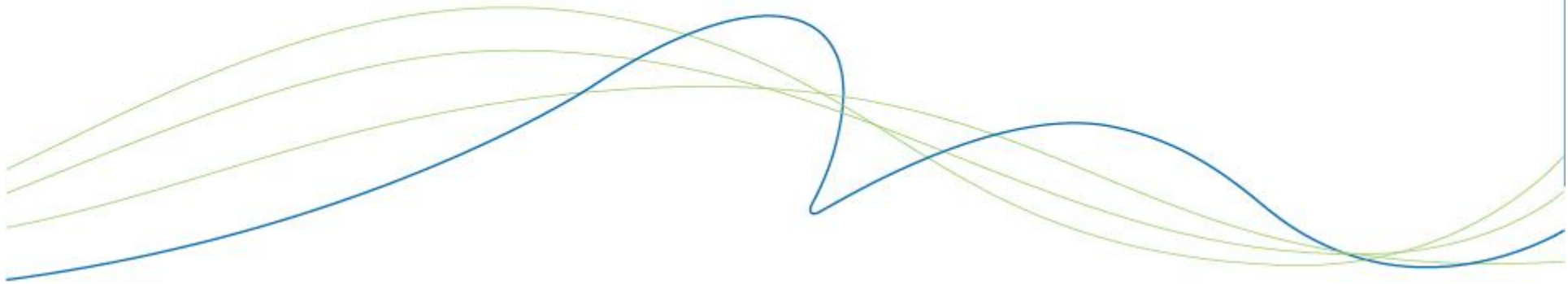


Petrotechnics

Benefits of ePTW

September 2010

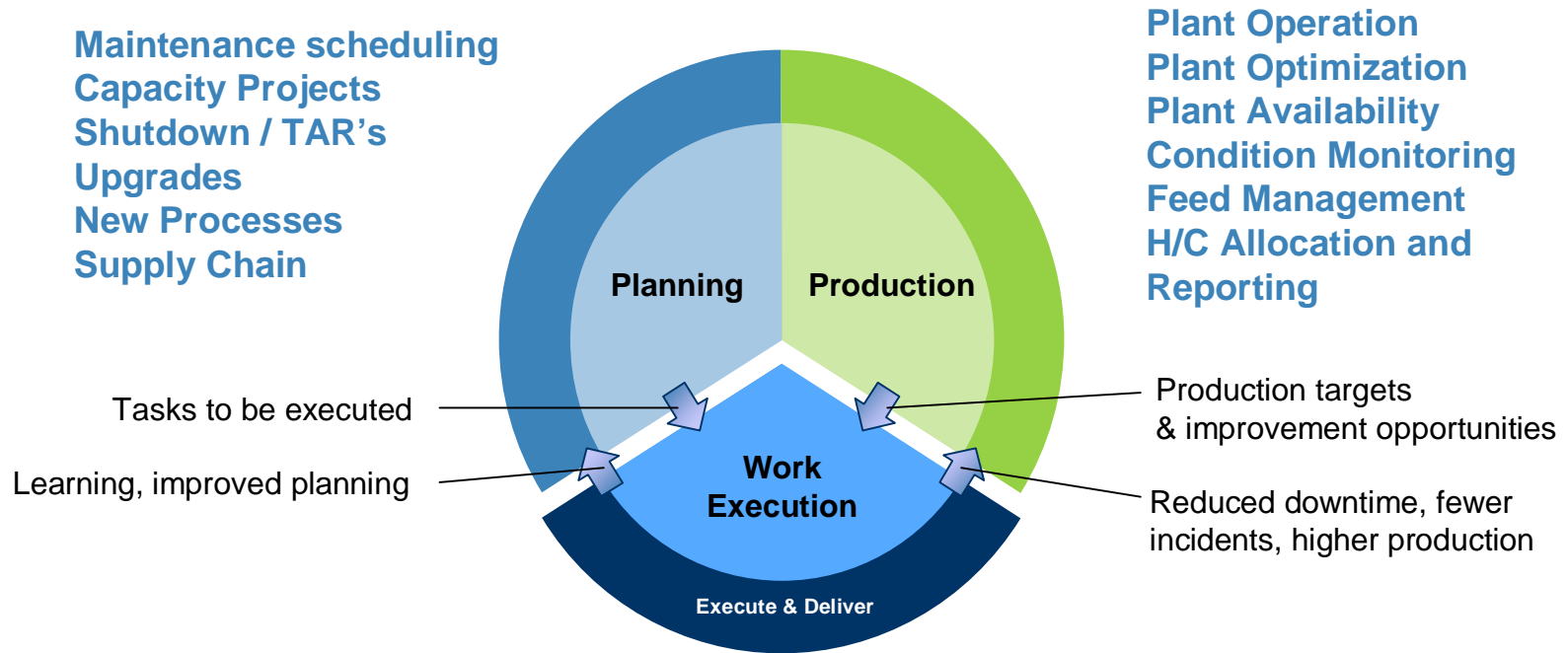
GEORGE BARRY



- What it's about
- The present
- Benefits
- Pitfalls
- What's out there and what's coming
- How does it work
- Quick overview of our solution
- Conclusions

- No more shutdown overruns
- No more Permit waiting time
- Every member of staff adhering to a rigid process for hazard identification before and during every task
- No Incidents or Accidents
- 100% productivity from all installation operational personnel
- All personnel trained in the same way – standardization across global sites – less time – less money – improved business performance
- Over achieving target outputs

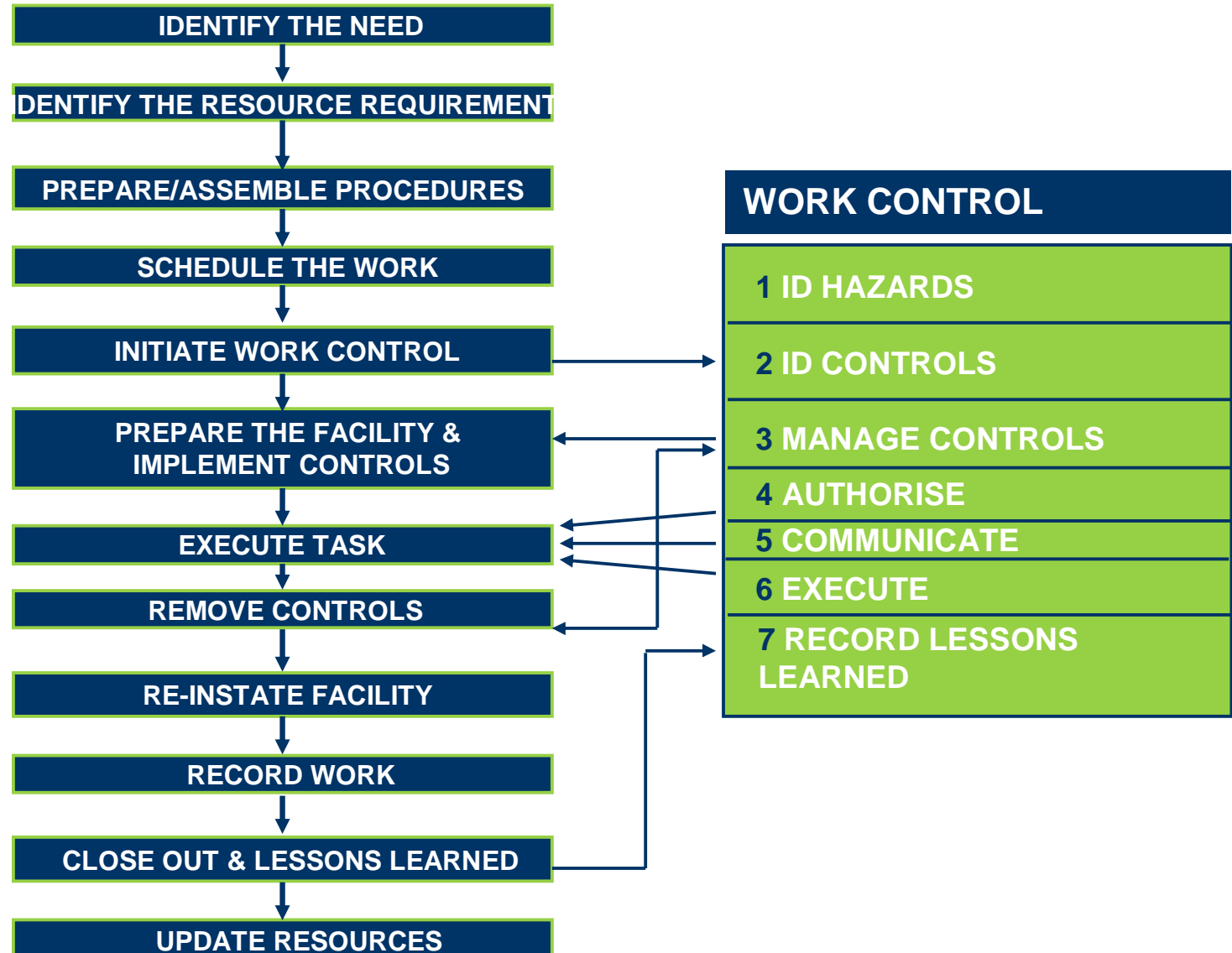
WHAT'S STOPPING THIS???



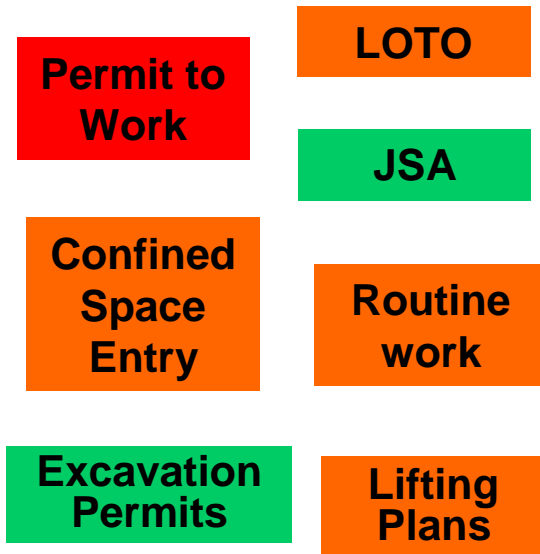
Safe, efficient execution of work by front line staff

- Hazard identification, task risk assessment
- Isolations
- Work site preparation
- 'Wrench time'

Work Execution is the Process for Intervening in the Routine Production Operation

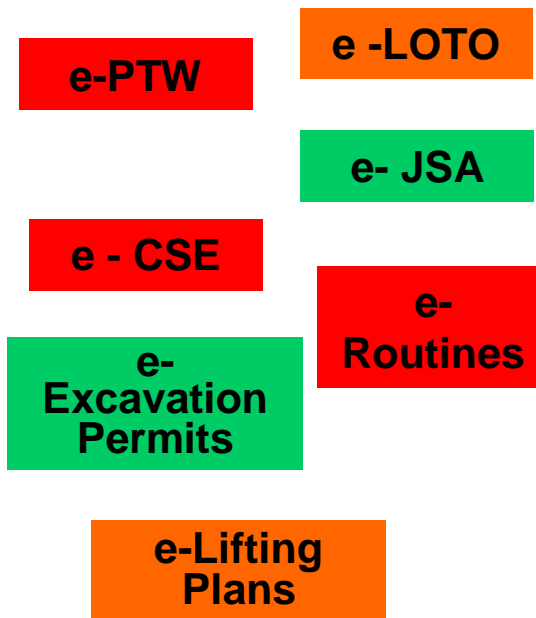


Conventional - Paper driven processes



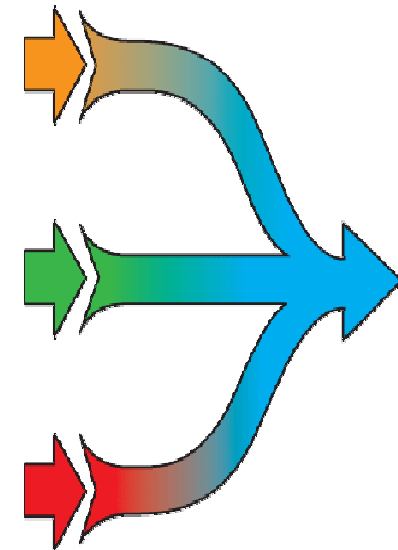
Disparate paper systems

“Electronic Permitting”



Electronic versions of paper forms – still largely disparate

Integrated Safe System of Work



Single Process integrating all aspects of work

- § Drives continuous improvement in safety performance by leveraging best practice
- § Reduces costly LTIs and accidents (one serious incident/accident in today's Google economy can spell disaster for the environment, companies and shareholders alike)



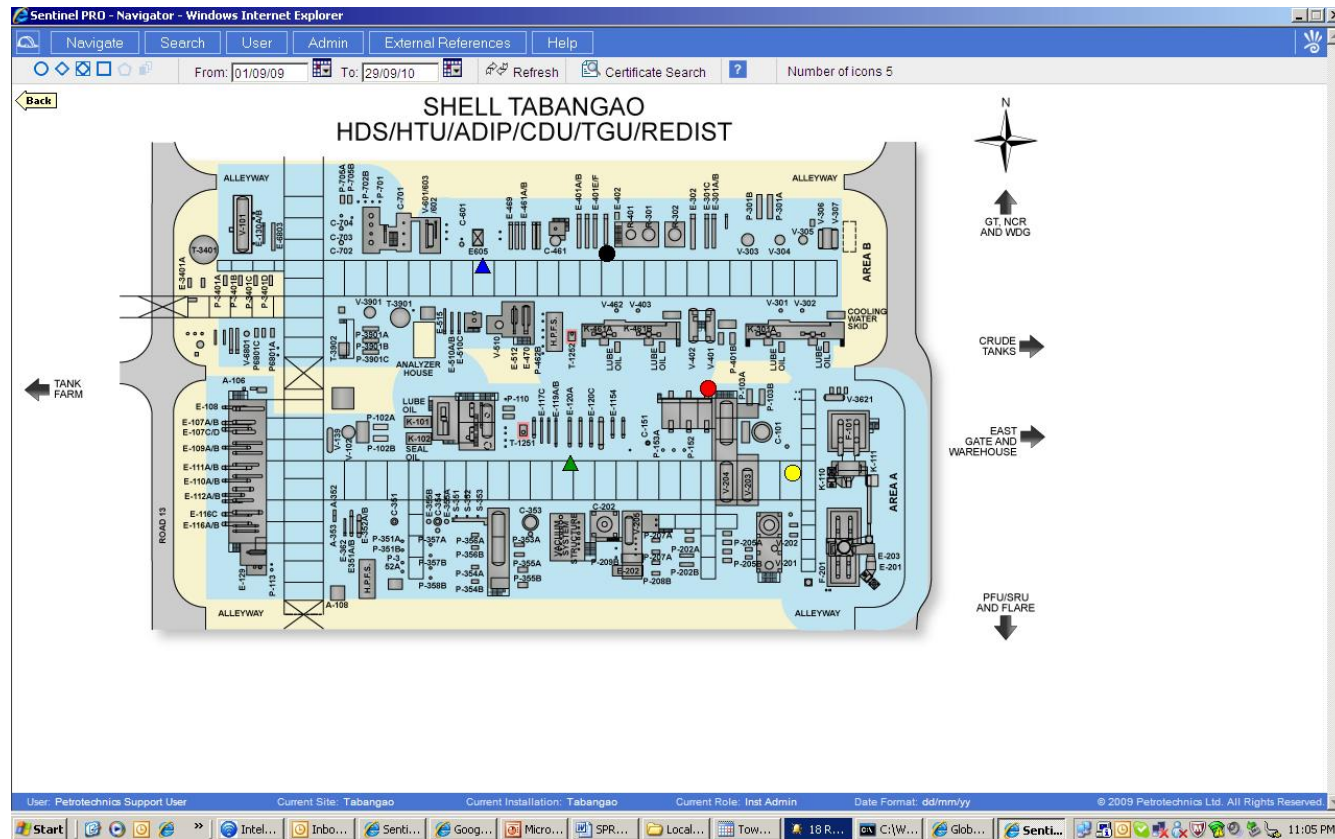
- § Drives standardisation of business and operational process
- § Integrates with other process software leading to better communication and transparency



§ Forces Risk Assessment process for increased rigor and assurance

Likelihood	Consequences				
	Insignificant <i>(Minor problem easily handled by normal day to day processes)</i>	Minor <i>(Some disruption possible, e.g. damage equal to \$500k)</i>	Moderate <i>(Significant time/resources required, e.g. damage equal to \$1million)</i>	Major <i>(Operations severely damaged, e.g. damage equal to \$10 million)</i>	Catastrophic <i>(Business survival is at risk damage equal to \$25 Million)</i>
Almost certain <i>(e.g. >90% chance)</i>	High	High	Extreme	Extreme	Extreme
Likely <i>(e.g. between 50% and 90% chance)</i>	Moderate	High	High	Extreme	Extreme
Moderate <i>(e.g. between 10% and 50% chance)</i>	Low	Moderate	High	Extreme	Extreme
Unlikely <i>(e.g. between 3% and 10% chance)</i>	Low	Low	Moderate	High	Extreme
Rare <i>(e.g. <3% chance)</i>	Low	Low	Moderate	High	High

- § Search and copy function speeds up the permitting and LOTO process increasing value added time at the front line
- § Graphical planning tool helps reduce SIMOPS problems



§ Gather valuable lessons learned and display them the next time you do the similar task.

§ Gathering knowledge before it goes out the gate

- § **Easier to Audit**
- § **Security - roles & privileges assigned in system**
- § **Harmonisation – a common system across all company assets, and adopting best practice closely aligned to other operators**
- § **Efficiency – streamlining the authorisation and issue process, freeing up Supervisors' time**
- § **Shutdown planning - major improvement!!**

- § Price and Time
- § Training and management of change
- § Infrastructure
- § Work force resistance – the old guard mentality
- § Needs to be clear message from leadership team

- § **Question “Will it slow the process down?”**

Over 600 permits issued on a daily basis

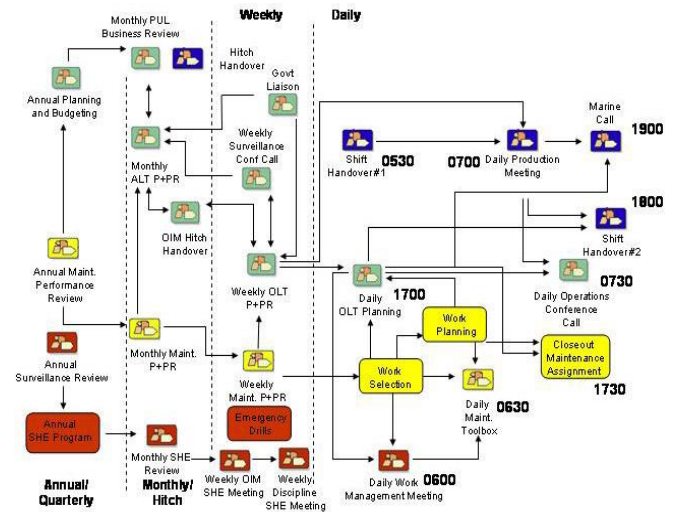
90% of the permits are taken live between 06:00 and 08:00

5,500 personnel have been trained – Risk Assessment CoW

Client now has an efficient system enforcing process rigour

During a volatile time in the economic market, this project was delivered on time and in budget





“The great thing about this project (ISSOW) is that it’s good business in every dimension: it improves the way we work, it reduces costs, and - most importantly – it also makes things safer. It’s simply the smart thing to do.”

Mark Carne, Former Asset Director, Shell Expro, now EVP, BG Group North West Europe



Ruggedised laptop or Tablet

- Full browser
- Full Sentinel PRO functionality
- Intrinsically safe
- WiFi or cellular connection
- 6" screen (larger for laptop)



iPhone/iPad (under evaluation)

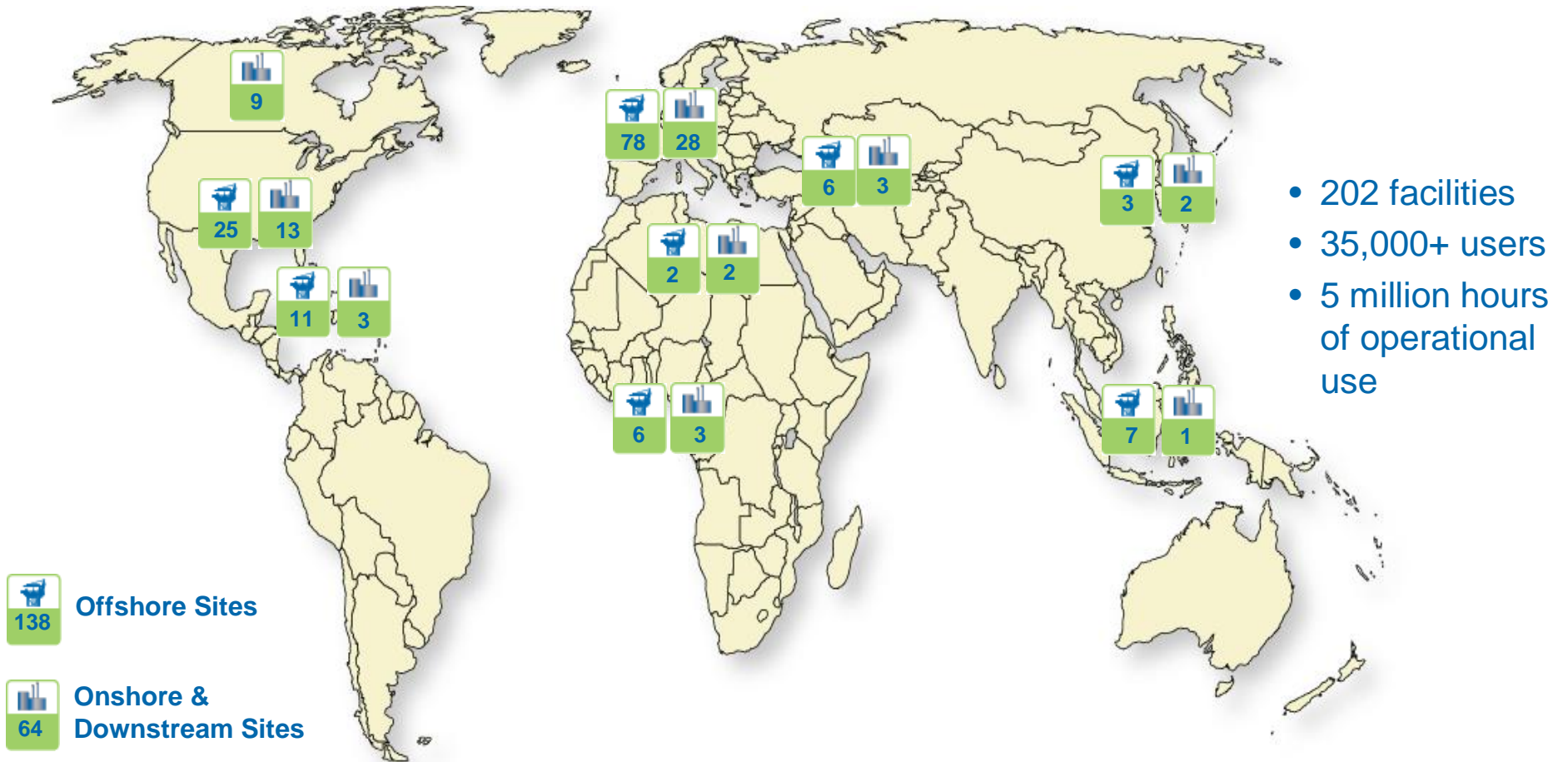
- Full browser
- Full Sentinel PRO functionality
- Not Intrinsically safe
- WiFi or cellular connection
- up to 10" screen



Windows Mobile devices

- Multiple use - configurable
- Limited browser
- Requires software installed
- Limited functionality
- Requires docking for sync
- Intrinsically safe
- 3 ½" screen

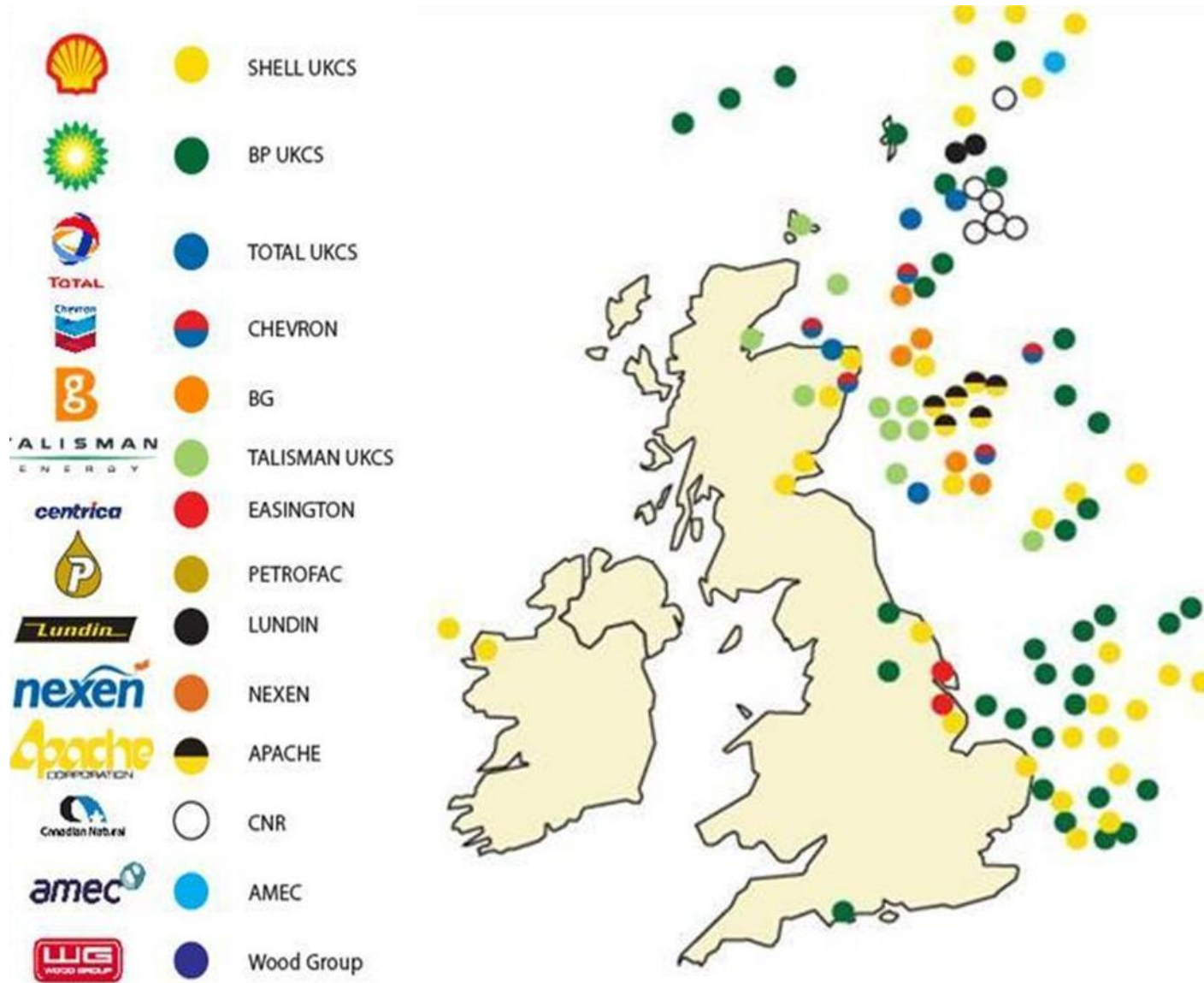




- 202 facilities
- 35,000+ users
- 5 million hours of operational use

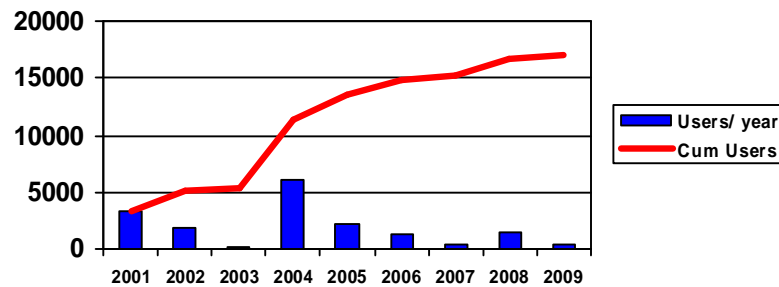


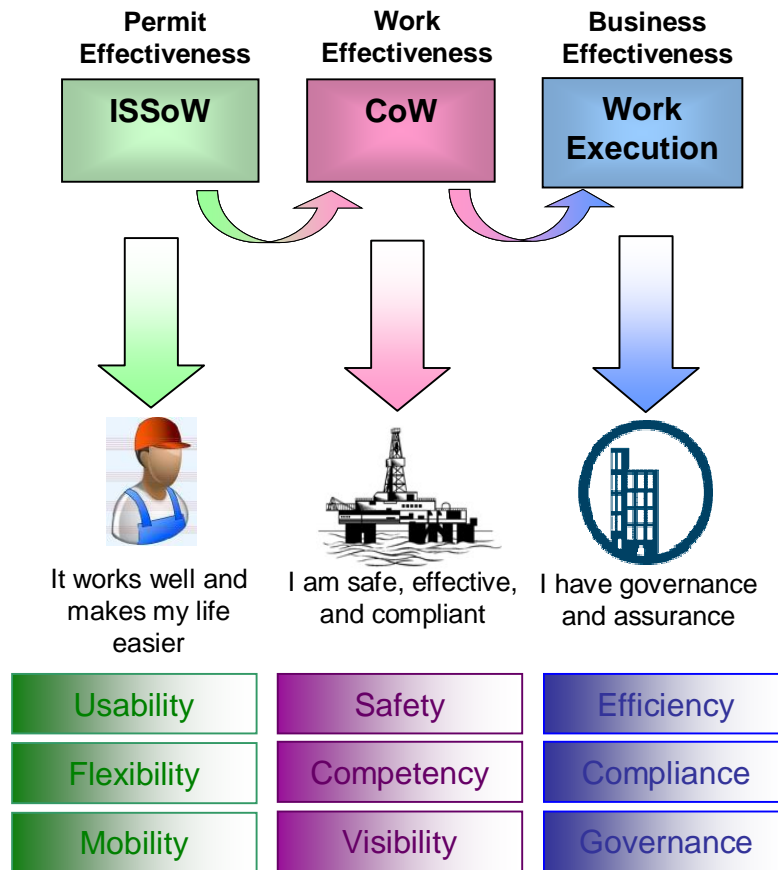
North Sea Implementations



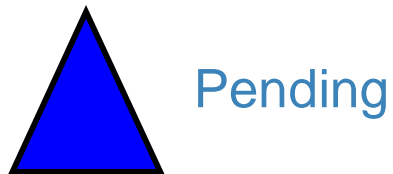
- § Shell Tabangao
- § Brunei Shell
- § BP Texas City
- § Shell Stanlow
- § Numerous BP, OXY, Shell onshore production facilities
- § ExxonMobil upstream just agreed to Global Contract

- § Sentinel PRO deployments have typically seen an ROI of less than 18 months
- § Increased operational productivity by up to 40% (due to elimination of NVA time)
- § Approximately \$3-5 million savings generated per annum over 5 years
- § Jobs managed to date across UKCS - 3,930,000

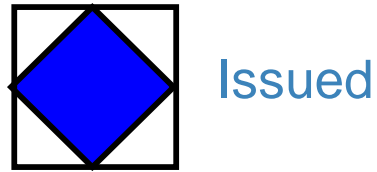




Planning



Work Execution



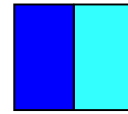
Completion



WCC Type and Icon Colours



Cold Work Permit



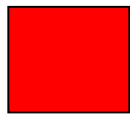
Routine Implementation



Cold Work Equipment
Disjointing Permit



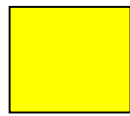
Confined Space Entry Certificate



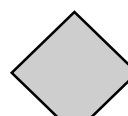
Hot Work Naked Flame
Permit



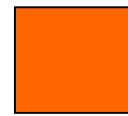
Operational Risk Assessment



Hot Work Spark Potential
Permit



Stand Alone Risk Assessment



Well Handover Certificate



Safety Critical Risk Assessment