

# THE DIGITAL TOOLBOX FOR OFFSHORE PRODUCTIVITY

Amidst the coverage given to the fall in barrel prices, attention must also be drawn to an equally damaging trend for North Sea businesses. Not only are most operators, oilfield service and equipment companies reducing headcount and cutting costs, they are also suffering from the worst productivity crisis in their history.

Recent industry research<sup>1</sup> indicates that the average North Sea wrench time (the value-added time spent maintaining plant and equipment) is less than four hours based on a 12 hour working day. Meanwhile, the drop in oilfield productivity is almost as dramatic as the drop in barrel prices, falling 38% in three years according to the research.

Industry statistics have also shown total annual OPEX cost increases of over 10% . Breaking this down even further sees annual increases of 11% for offshore operations and maintenance, 7% for logistics and 14% admin support<sup>2</sup>.

While the age and condition of the North Sea infrastructure can account for some of these increases, wage inflation and low productivity, coupled with a barrel price that has halved in the past twelve months, has created an unsustainable dynamic.

The North Sea supply chain must seek to quickly address the crisis and use workforces to their full capacity. This requires new thinking, new technology and an understanding of the issues that are resulting in unnecessary OPEX spend and lost hours at a time when they can be least afforded.



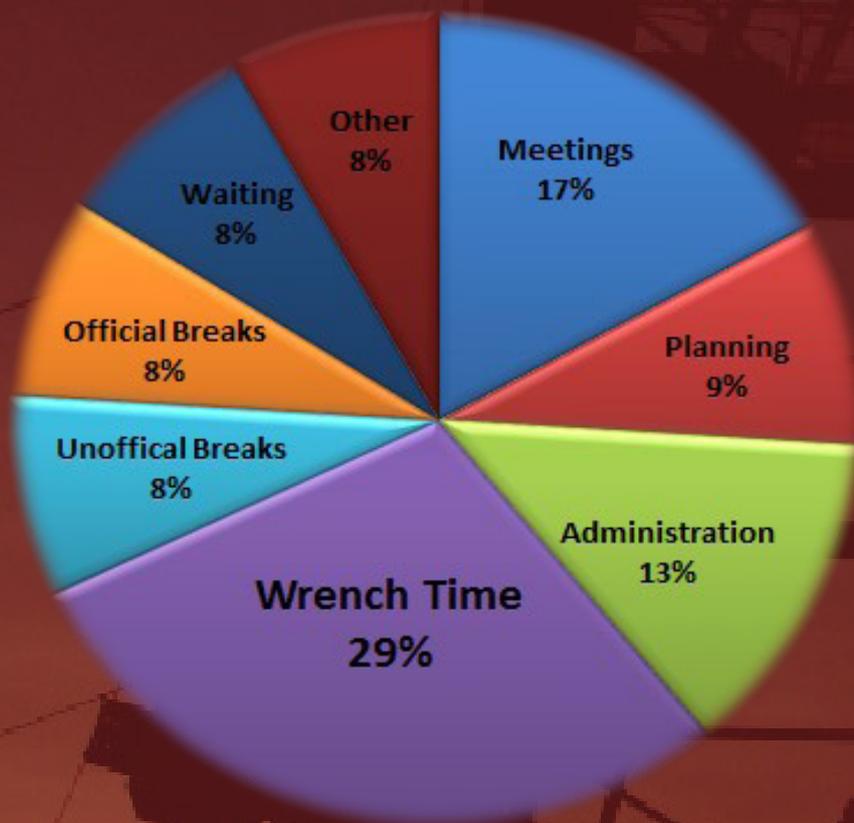
<sup>1</sup> The Wrench Time Challenge: Releasing 'Locked-In Capacity' - Hitachi Consulting  
[http://www.hitachiconsulting.com/sites/catalog/Lists/Collateral/TL\\_The%20wrench-time%20challenge.pdf](http://www.hitachiconsulting.com/sites/catalog/Lists/Collateral/TL_The%20wrench-time%20challenge.pdf)

<sup>2</sup> Meeting the Challenge of Increasing North Sea Costs - McKinsey  
[http://www.mckinsey.com/client\\_service/oil\\_and\\_gas/latest\\_thinking](http://www.mckinsey.com/client_service/oil_and_gas/latest_thinking)

# THE COST OF NON-VALUE ADDING ACTIVITIES

Based on research, the average technician spends less than 4 hours of a 12 hour shift adding value to plant and equipment.

The diagram below demonstrates the typical breakdown of the working day for an offshore technician.



*Figure 1 : North Sea Wrench Time Analysis (Data Provided by Hitachi Consulting)*

As much as 54% of an offshore technician's day can be taken up by a combination of meetings, unofficial breaks, administration overhead, other unspecified activities and waiting for information or equipment.

All of these tasks can be measured and reduced with the use of mobile technology.

# THE VALUE OF OPERATIONAL MOBILITY

Introducing mobility will simplify and standardise offshore operations and allow the business to measure and better manage off-shore productivity.

Many of the productivity leaks over the last 20 years stem from reliance on paper and manual processes. Contrast the oil and gas supply chain with the retail industry. Companies such as Walmart, Proctor and Gamble and Amazon regularly feature in supply chain excellence case studies. Retailers have embraced barcoding, Radio Frequency Identification (RFID) and enterprise mobility to continually increase productivity and drive out operational costs.

There is a growing range of mobile apps tailored for the on and off-shore oil & gas workforce. For example, maintenance work can now be delivered electronically via integrated Field Service apps running on intrinsically safe Android tablets. Health and safety apps will manage Toolbox Talks and risk assessments. Logistics apps will ensure all equipment and parts are delivered on-time at the correct location.

Utilising this digital toolbox allows field technicians to receive electronic work packs and up-to-date material and equipment information remotely. The latest apps designed for industrial tablets will also utilise the in-built barcode, RFID and image capture capabilities to improve the speed and accuracy of captured information.

Meanwhile, as work and tasks are completed, all data is synchronised to web portals, back-office systems and business intelligence databases. Planners and administrators can see exactly what is happening offshore and easily track actual versus targeted work completion and technician productivity.

Combining specialist apps for the oil and gas supply chain with other apps will further increase productivity. For example, video conferencing apps will instantly connect a technician to an on-shore subject matter expert with a click of a button. Document management apps can present the relevant information to the technician from the scan of the equipment barcode or RFID tag. And image capture and sketching apps will allow mark-up of complex diagrams and high definition photographs.



# HOW OPERATIONAL MOBILITY CAN IMPROVE WRENCH TIME

Spartan estimate that wrench time can be increased by at least 3 hours through the proper use of operational mobility.

For instance, manual processing of paper timesheets remains convoluted and highly error-prone. Mobility introduces a standard coding system for capturing work and task effort. Deploying an electronic timesheet app will result in increased productivity and ensure lost time is easily trackable. Recording and reporting accurate data is key to improvement and the best performing oil businesses will use these performance insights to quickly target and act upon drift from expected performance.

On average, one hour of a technician's day is spent waiting for third party assistance, and in our experience this can be cut significantly by using mobile applications to better plan and deliver work and equipment information electronically.

Crucially, at a time when productivity rates need to improve, the increased visibility across a workforce gives businesses the tools to measure, report and incentivise staff to meet or exceed benchmark productivity.

By removing paperwork and connecting the flow of information between onshore and offshore workers and equipment, businesses can have strong awareness of precisely where time is being spent and address concerns instantly before a 'drift' effect causes problems.

Meanwhile, the development of new intrinsically safe handheld devices means it is now possible for mobility to work in zone 1 hazardous areas, a ground breaking development which opens up exciting possibilities for the industry as a whole.

Such technological advances mean that the most forward-thinking businesses have an opportunity to rectify ingrained productivity issues that have only been truly illuminated by the barrel price collapse. It may seem like a difficult fight, but those who view it as an opportunity to improve will also be those who come out on top in the end.

If you are interested in more information about operational mobility and Spartan's PHALANX apps for operations, please visit our [Resources page](#).



SPARTAN SOLUTIONS HAS DELIVERED MOBILE SOLUTIONS TO SOME OF THE WORLD'S LEADING SERVICE, EQUIPMENT MANAGEMENT AND RENTAL COMPANIES INCLUDING AGGREKO, BALFOUR BEATTY AND SWIRE OILFIELD SERVICES. OUR MOBILE AND WEB APPS ARE BEING USED BY THOUSANDS OF TECHNICIANS AND BACK-OFFICE STAFF, REDUCING THEIR COSTS AND INCREASING EFFICIENCY.

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