A lot of companies are now climbing aboard the Lean bandwagon as they launch initiatives to reduce waste in their drilling and field development processes – 20 years after DE WARDT AND COMPANY launched the proprietary program Lean Drilling™. These newcomers to this methodology often lack the awareness of what Lean is and how it can be translated from manufacturing environment to drilling and completion operations. Many people write Lean as LEAN; as if it is some acronym which it is not. Lean is a term coined by the researchers undertaking an MIT study of automobile manufacturing in the 1980s. They identified a class of manufacturers who were a step ahead of the rest in terms of productivity and quality. They noted that these manufacturers "did more with less" and so the term Lean Manufacturing was born. In fact, these manufacturers all had copied and followed the Toyota Production System (TPS) which itself was born of necessity in the 1950s.

There is a large and distinct difference between the organization of manufacturer and suppliers in Lean Manufacturing and the organization of operators and suppliers (drilling contractors, service companies, oilfield equipment manufacturers) in the oil and gas drilling business. The latter is handicapped by an inherently badly organized structure of the work systems. Effective Lean application to drilling requires more suitable and aligned organization architecture for successful application of the key principles in the Lean methodology and culture. This is a foundational aspect many applicants of Lean to drilling totally miss.
Incremental improvement has its place, but not at the beginning of the process if you want to emulate the success of the original practices behind TPS. TPS was founded on step change improvement followed by incremental improvement through involvement of all employees and suppliers - Kaikaku followed by Kaizen.

Lean has been extremely successful in various applications in drilling operations since the mid-1990s. In one case, a USA operator commenced with process improvement and then embedded Lean practices within its own organization and within its suppliers. It runs a highly effective operation delivering wells in a continuous process.

Some other operators faced with a financial crisis have made massive gains in drilling performance to simultaneously reduce well costs and accelerate the addition of production capacity. These operators developed improvement techniques that are similar in nature to the Lean improvement techniques in TPS.

Lean Drilling™ has delivered step change improvement performance since 1995:

- BP Andrew, UK - 1995 - fastest N Sea platform tie back to pre-drilled wells.
- BP & Amoco, Norway - 1997 / 2001 - 3rd quartile to 1st quartile peer ranking improvement
- Statoil Gullfaks, Norway - 2000 - immediately achieved double historic field best performance and 30% well cost reduction
- Total (Elf), Norway - 2000 - abandonment 3 offshore wells 40 days versus historic 130 days
- Statoil Yme, Norway - 2001 - 30% time reduction in abandonment (achieved Tech Limit)
- BP Mad Dog (GOM deepwater), USA - 2001 - set benchmark at 21 days / 10,000 feet.
- Addax, Nigeria - 2003 / 2005 - grew from lowest to best in class performance on Rushmore Review industry benchmark
- Petrofac, Romania - 2012 - 40% reduction in drilling and completion time
- Petrofac, Mexico - 2013 - field development concept well cost reduction 60%
- Halliburton, Saudi Arabia - 2015 - 26% step change reduction in drilling time across 4 land rigs

Sustainability of Lean, including Lean Drilling™ and Lean Abandonment™, requires leadership and culture that continuously reinforces the principles with coaching of personnel to continue incremental improvements. North Sea drilling experienced a rise in performance during the late 1990s, in the region of 30%, with a peak and a drop off through 2004 that suggests management and personnel failed to adopt the culture required to sustain and improve the new levels of performance. Today such failure will bankrupt companies.