

# Solution to cut CAPEX by 30% in slim wells drilling and install the ESP without well-kill operation

## Challenges

- Remaining oil in well
- Slim casing 5.5" (146 mm)
- Need ESP to provide cable deployment through the casing

## Results

- Reduce drilling CAPEX up to 30%
- Save time on pulling-and-running operations and dismantling/assembly of equipment
- Reduction in the risk of failure due to complicating factors

**Slim casing 5.5" (146 mm) wells and wells with cable deployed thru-tubing ESPs need special smaller-size equipment with the desired capacity level and high reliability.**

**Our advanced solution is the 12,000 rpm Ultra-High-Speed ESPTM by Lex, whose dimensions provide cable deployment both through the casing of 5.5" (146 mm) or tubing of 3.5" (89 mm).**

Slim well drilling reduces the total drilling costs, including transportation and energy consumption, by up to 50%. So, the oil companies often use this approach to extract the remaining oil in place.

At the same time, oil companies with slim wells 5.5" (146 mm) or potential cable deployed thru-tubing ESP wells face ESP supply shortfalls of ESPs that would meet the desired reliability size, productivity, and head.

The wells come either idle waiting for suitable equipment, and the oil company incurs a significant loss, or they use alternative technologies, like small-size sucker rod pumps with a surface drive that do not unlock the potential of the well

We have developed an innovative solution, a compact high-speed (up to 12,000 rpm) submersible pumping system (ESP) 29.5 ft (9 m) long. It can be cable-deployed thru slim casing or tubing through the wellhead lubricator without the need for well-killing. The minimum casing size is 3.5" (89 mm).

Our new Ultra-High-Speed ESP (UHS ESP™) by Lex, capable of up to 12,000 rpm, is based on aerospace industry achievements. It allows both to slim down the system for safe deployment through slim casings and increase resistance to harsh environments (gas, solids, deviations, etc.)

The implementation of our solution can reduce drilling CAPEX by up to 30% (given the initial slim well planning), decrease OPEX by saving time on pulling-and-running operations and dismantling/assembly of equipment, as well as a reduction in the risk of failure due to complicating factors with following downtime wells.