AutoBoost®
Innovative Production Services
Solution to give a second life to a dead well while optimizing the cost and energy
All About Us

New Innovative Technology Company

Innovative Production Services

Innovative Production Services is a Tunisian service company founded by a team of energy industry professionals with a vast array of experience in design, operation and servicing of oil & gas assets.

Our Operation is covering North Africa and Eastern Europe and planning to expand to the rest of Africa and Middle East

More About Us

www.innovativeproduction.com

Innovation is taking two things that exist and putting them together in a new way.

Tom Freston
Vision & Mission

We are committed to drive the change in the O&G Industry

Our Mission

With our knowledge and tenacity, We commit to share with our business partners the best proactive energy solution for their challenges

Our Vision

To become our Partner’s preferred solution provider and trusted adviser for their production optimization.
Table of Content

01. Introduction
   • Artificial Lift
   • Gas Lift
   • Artificial Lift Market

02. AutoBooST Technology
   • Technology Drivers
   • AutoBooST Operation
   • Digital Innovation

03. AutoBooST Impact
   • Impact on Client

04. Conclusion
   • Our Future Objectives
   • Q&A Session
Artificial Lift

Definition
The use of artificial lift means to increase the flow of liquids, such as crude oil or water, from a production well. Generally, this is achieved by the use of a mechanical device inside the well (known as pump or velocity string) or by decreasing the weight of the hydrostatic column by injecting gas into the liquid some distance down the well.

- Hydraulic pumping systems
- ESP
- Gas Lift
- Rod pumps
Gas Lift

Gas lift is a method of artificial lift that uses an external source of high-pressure gas for supplementing formation gas to lift the well fluids.

The principle of gas lift is that gas injected into the tubing reduces the density of the fluids in the tubing, and the bubbles have a “scrubbing” action on the liquids. Both factors act to lower the flowing bottomhole pressure at the bottom of the tubing.
Artificial lift Market Evolution (bn$)

100% Increase within 10 Years

Increasing Efforts and growing investments to enhance the production

Source: www.precedenceresearch.com
Gas Lift Installation Cost Breakdown

Capital Cost: First Cost and Installation Cost

- The driver and compressor, skid, the necessary operating systems.
- Site ambient temperature, site elevation: the power demand of the compressor must be met at site conditions.

Maintenance Cost

- The parts and labor to keep the equipment running at or above a certain power level.

Efficiency, Operating Range and Fuel Cost

- Efficiency ultimately means the cost of fuel consumed to compress gas.
- Operating range describes the range of possible operating conditions in terms of flow at an acceptable efficiency, within the power capability of the driver.

Emissions Cost

- Any natural-gas-powered combustion engine will produce a number of undesirable combustion products.
- The cost of bringing the equipment to meet local or federal limits has to be considered.
Gas lift is one of the most popular ways to increase oil-well production, and it is no secret that it is an underperformer. ExxonMobil (2014) created a team of gas-lift experts, was able to add an average of 22% more output on several hundred wells. Chevron (SPE201140) introduced a new gas lift control system which enhanced the “operability and profitability of gas-lift wells.”
AutoBooST® Solution

Lines Pressure Loss
Short distance, with appropriate and specific pipe sizing design

Asset Energy Consumption
No External power supply is required, the AB system a standalone unit

Operation’s Cost
More cost effective and better performance
AutoBooST® Solution
AutoBooST® How Does it Works

Energy Balance

Flow Conditioning
Well Fluid enters the 3-phase separator with appropriate retention time to ensure good phases separation

Gas reinjection to boost the well
Liquid phases will be reinjected to the production line and gas compressed to boost the well

Self powered unit
Electrical Generator powered by CAT engine to powerup the unit.
**AutoBooST® Possible Layout**

**Single Well Boosting**  
Romania, Algeria  
The gas from the same well is reinjected to boost its actual production.

**Gas Disposal**  
Algeria  
Produced gas is sent to other facilities, this method is used to reduce the back pressure in the production line.

**Multi Well Boosting**  
Algeria  
Gas from different wells, is used to boost other wells in the same network or area.

**Multiphase Pumping**  
Romania, Algeria  
The low energy well flow is metered and reinjected in the production line.
AutoBooST® Project Preparation

**Candidate Selection**
- Well Candidate Selection
- Process and gas lift simulation
- Estimation of the success of the operation
- Simulation fine tuning and agreement with stakeholders

**Project Design**
- Prepare for the appropriate equipment to be used
- Confirm is gas lift equipment are existent, or to be deployed by several technics
- Generate a final Prejob report consolidating all simulations and designs

**Project Execution**
- Install the AutoBooST® technology on the target well / Network to start boosting the production.
- Adapt and update the simulation in Realtime to meet the objectives
- Provide Realtime operation progress for decision making
Digital Innovation

Data Acquisition Platform

Remote Operation
Which allows centralization of decisions and workforce optimization

Adaptative Regulation
With the automatic control system, the AutoBooST®, will adapt its parameters to optimize the production

Effective Decisions
A full customized dashboard allowing an overview on the unit status and behavior

Artificial Intelligence
With the integration of the AI in AutoBooST®, the system will allow a deep behavior study and can predict any failure.
**AutoBooST® Production Gain**

**Total Production gain**
More than 45% as an overall production gain in all our projects.

**Net revenue**
With the use of AutoBooST®, our partners had more than 50% ROI.

**Technology Proven**
The AutoBooST® technology allowed the client to revive dead well and boost their actual production while maintaining their cost effectiveness.

---

![Graph showing production gain for different wells with and without AutoBooST®.](image-url)
Our Achievements

Safety Culture
0 LTI
More than 7500 Hrs of continuous operation with any accident or incident to report

Service Quality
0 SQI
No Service quality incident

Trusted Technology
> 1500 Bopd
More than 1500 bbl/d of oil recovered by our clients using AutoBooST®

No Gas Emission
0 Flaring
All operations were performed with zero flaring to ensure a clean environment
## Our Achievements

<table>
<thead>
<tr>
<th>Country</th>
<th>Objective</th>
<th>Before AutoBooST®</th>
<th>After AutoBooST®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Europe</td>
<td>Replace the gas lift system</td>
<td>The well was producing with plant gas lift</td>
<td>Gas lift was replaced by AutoBooST®</td>
</tr>
<tr>
<td>Algeria (NOC)*</td>
<td>Improve Production</td>
<td>1130 BOPD</td>
<td>1766 BOPD</td>
</tr>
<tr>
<td>Algeria (NOC)</td>
<td>Improve Production</td>
<td>Idle</td>
<td>480 BOPD</td>
</tr>
<tr>
<td>Algeria (IOC)*</td>
<td>Improve Production</td>
<td>Idle</td>
<td>220 BOPD</td>
</tr>
</tbody>
</table>

*NOC : National Oil Company
*IOC : International Oil Company
AutoBooST® advantages

3 Aspect Benefits

Environment Clean
Zero flaring, and zero gas emission

Environment Friend
During all AutoBooST® projects, the gas was either recycled to the well or sent back to the production. No flaring was required.

High Return on Investment
Comparing to the complete gas lift station, the AutoBooST® technology is very effective in term of ROI.

Low Energy
The AutoBooST® design and process simulation, optimizes the exact energy required to optimize the well and boost the production.
AutoBooST® Future Objectives

50% Renewable Energy On Daily Use

Innovative Production Services is planning to use the solar energy in the desert to power the acquisition system which represents about 50% of the total energy consumption.

100% Unmanned Operation

Our objective in AutoBooST is to achieve a 100% unmanned operation for boosting the well production.

- Tom Allen