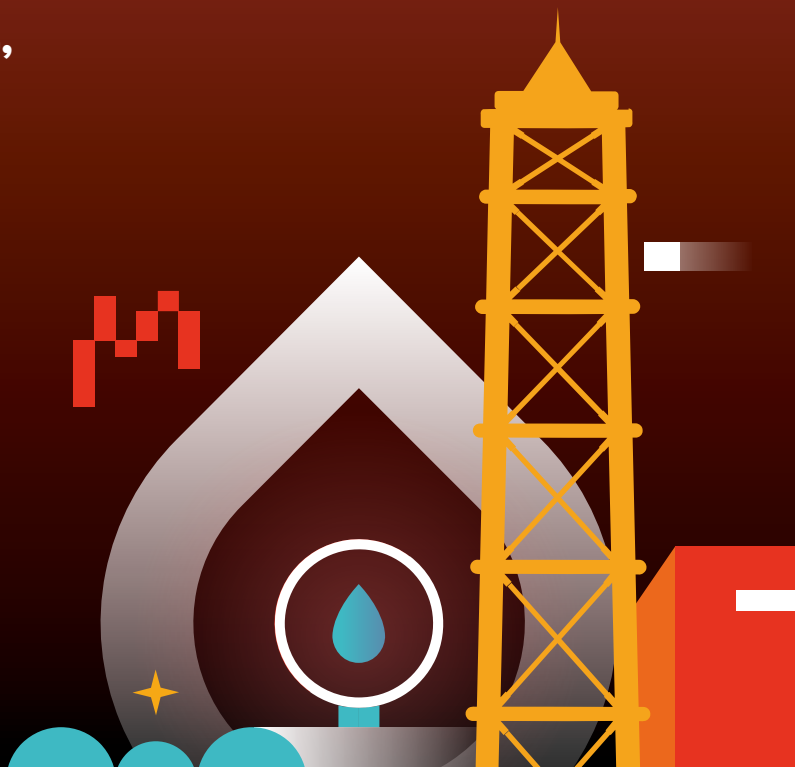


# MACHINE LEARNING IN OIL & GAS

**Houston,  
April 13-14,  
2022**

 **LAREDO**  
PETROLEUM  
softserve

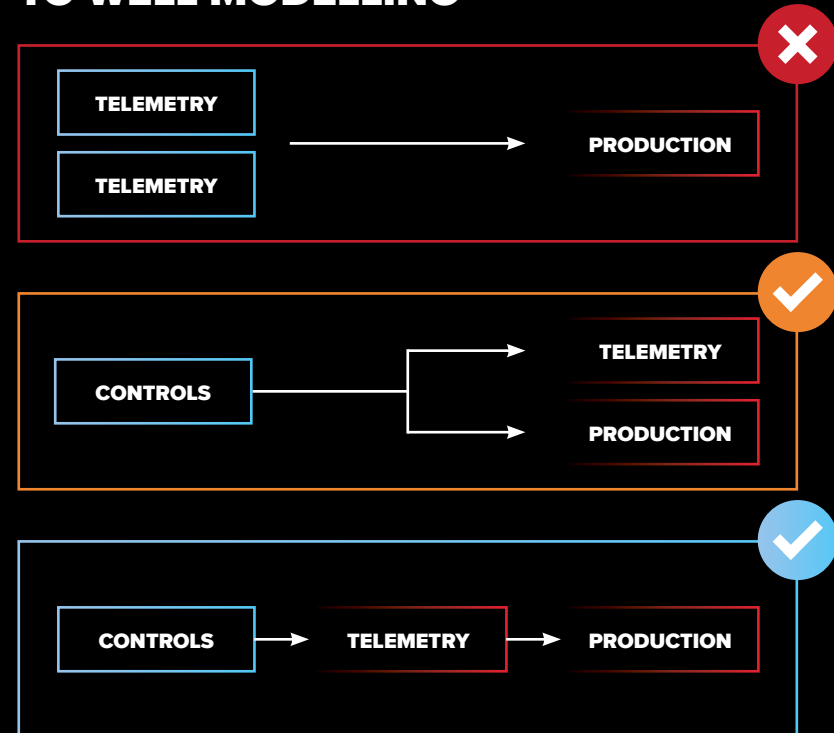


# AI-POWERED ESP OPTIMIZATION

Laredo Petroleum is a leading energy company that focuses on the acquisition, exploration and development of oil and natural gas properties. Electrical Submersible Pump-operated wells play a strategic role in Laredo Petroleum's digital transformation strategy. The client wanted to create an AI-based solution for ESP optimization that will take the complexity out of operating ESPs.



## OUR APPROACH TO WELL MODELLING



## WHY SOFTSERVE?

### STABILITY

**29+**

Years of award-winning service

### EXPERIENCE

**20K+**

Complex project competed

### TRUST

**72 NPS**

Leads hr industry

### YOU-CENTRIC

**100%**

Onsite, remote, or hybrid service delivery

### RETENTION

**90%+**

Client retention (many for more than 20 years)

### SCALABILITY

**30%**

Organic CAGR five years running

## GOALS



Recognize problems



Optimize production rates



Forecast and improve oil production



Improve uptime



Lower operating costs



Identify opportunities

## CHALLENGES

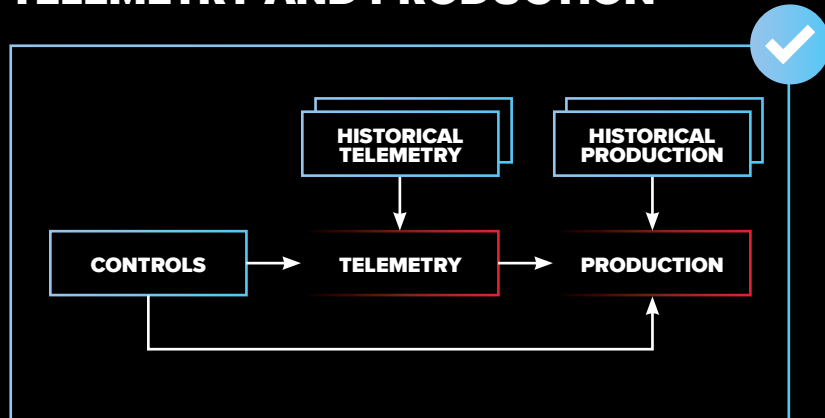


Difficulty in finding the optimal combination of two main parameters: Tubing Pressure and Motor Frequency, as they depend on many variables

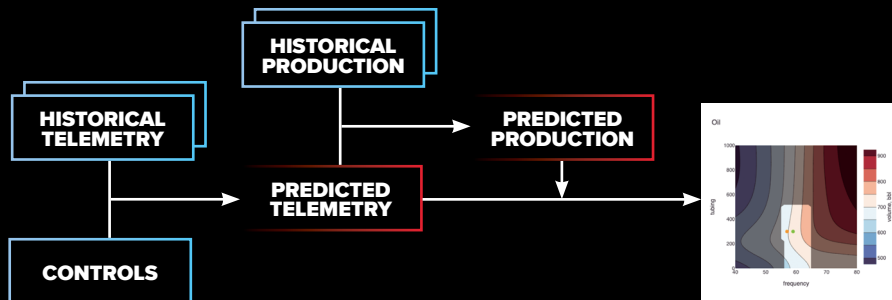


Calculation of new controls pairs is a time-consuming process

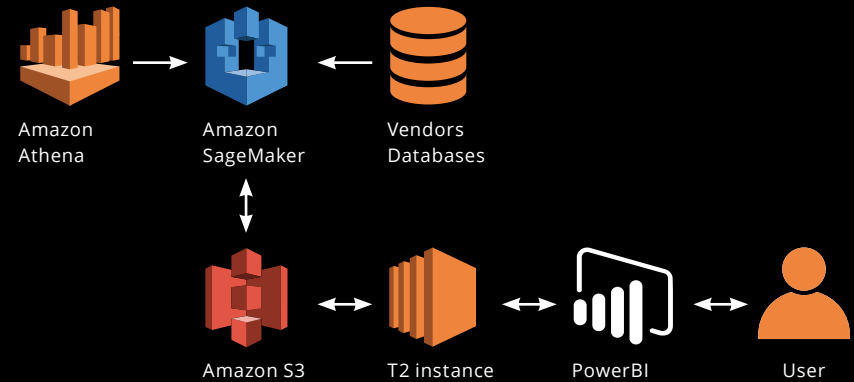
## HISTORICAL COMPONENT FOR TELEMETRY AND PRODUCTION



## SOLUTION: FINAL RELATIONSHIP GRAPH



## SOLUTION ARCHITECTURE



## VALUE

Real-time dashboards that provide summary statistics, forecasts, and parameter recommendations for better decision-making

The solution is highly flexible and could be adapted to a vast variety of ESP systems

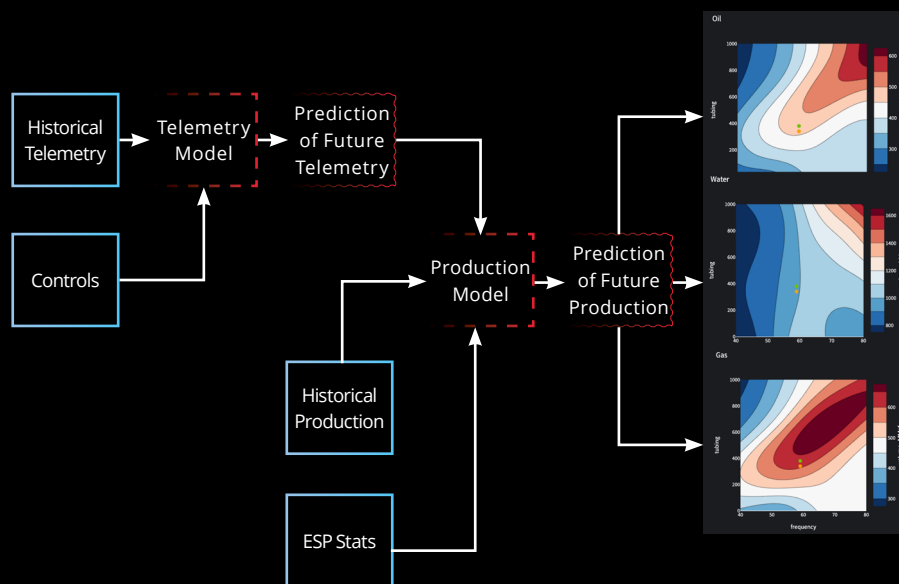
Reduced downtime, better maintenance practices, reduced OPEX

~400 bbl/day for 50 pilot wells

The solution scaled from 50 to 100+ wells in production in several months

High accuracy of prediction of oil/gas/water production

## DNN ARCHITECTURE



## ABOUT SOFTSERVE

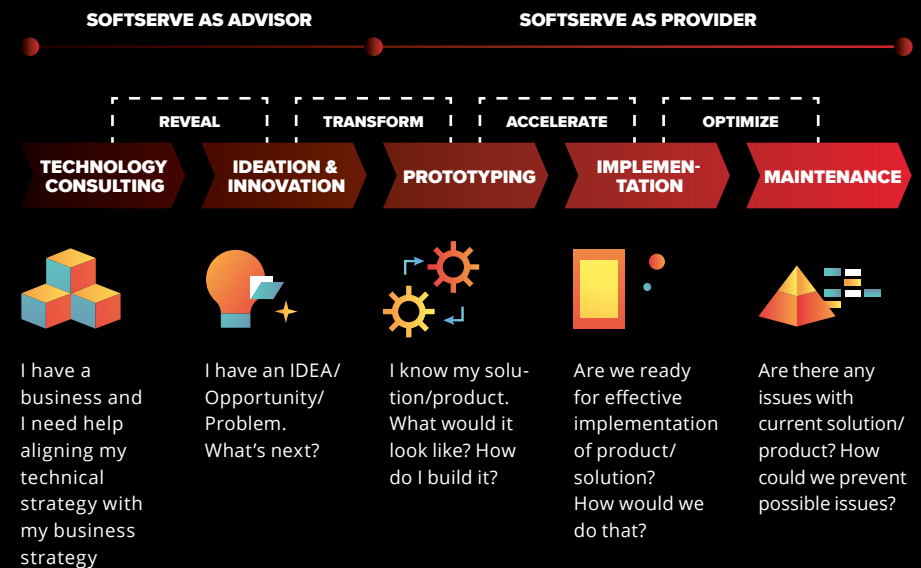
SoftServe is a digital authority that advises and provides at the cutting-edge of technology. We reveal, transform, accelerate, and optimize the way enterprises and software companies do business. With expertise across healthcare, retail, energy, financial services, software, and more, we implement end-to-end solutions to deliver the innovation, quality, and speed that our clients' users expect.

SoftServe delivers open innovation—from generating compelling new ideas, to developing and implementing transformational products and services.



## OUR APPROACH

SoftServe has created a sustainable ecosystem to support the team in overcoming all possible challenges at every stage of project implementation. The secret sauce of true success is a thorough combination of expert knowledge, tuned processes, talented people, and trusting relationships.



# THANK YOU



We would like to take the opportunity to thank you for visiting our booth at MACHINE LEARNING IN OIL AND GAS conference.

Please do not hesitate to contact us if you have any questions or feedback that you would like to share.

We hope you enjoy the event, and we look forward to seeing you again soon.

*The SoftServe team*



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