Luther Birdzell
Founder and CEO

Well Planning Optimization with AI and Machine Learning

July 2018

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3 Opportunities with OAG Analytics

Customers

10-15% well optimization in 3 months

Investors

Seeking $10mm to accelerate growth

Partners

Implementation services providers

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Customers: Well Planning Optimization

Modern oil & gas wells create more complex data than legacy analytics can handle – AI & machine learning enable operators to tackle these challenges head-on

Rocks

Quantify and improve the value of existing rock data and physical models

"OAG's proprietary algorithms uniquely make sense of big, complex upstream data"

Wells

Optimize location, spacing, design, production, and profitability

"Within three months of deploying OAG's software, well optimization workflows cut D&C costs by ~10% per well across our entire drilling campaign"

Assets

Identify under- and over-valued opportunities

"Production potential (EUR) and discounted cash flow (DCF) modeling for virtually any area of interest in minutes"

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Customers: Powerful Tools for the Citizen Data Scientist

OAG's SaaS software puts the power of world-class AI and machine learning in the hands of subsurface professionals

Data Engineering

- Automated cleaning and QC of rock, drilling and well data
- Subsurface subject matter expert QA/QC
- Create a single data set from any combination of upstream data in minutes

Machine Learning

- Unlimited scalability with cloud compute
- Automated model creation enables validation and insight extraction in minutes, not days
- No programming required

Insight Visualization

- Extract hidden uplift insights from existing data
- Seamless integration with existing tools like Spotfire
- Drive value increase across asset base

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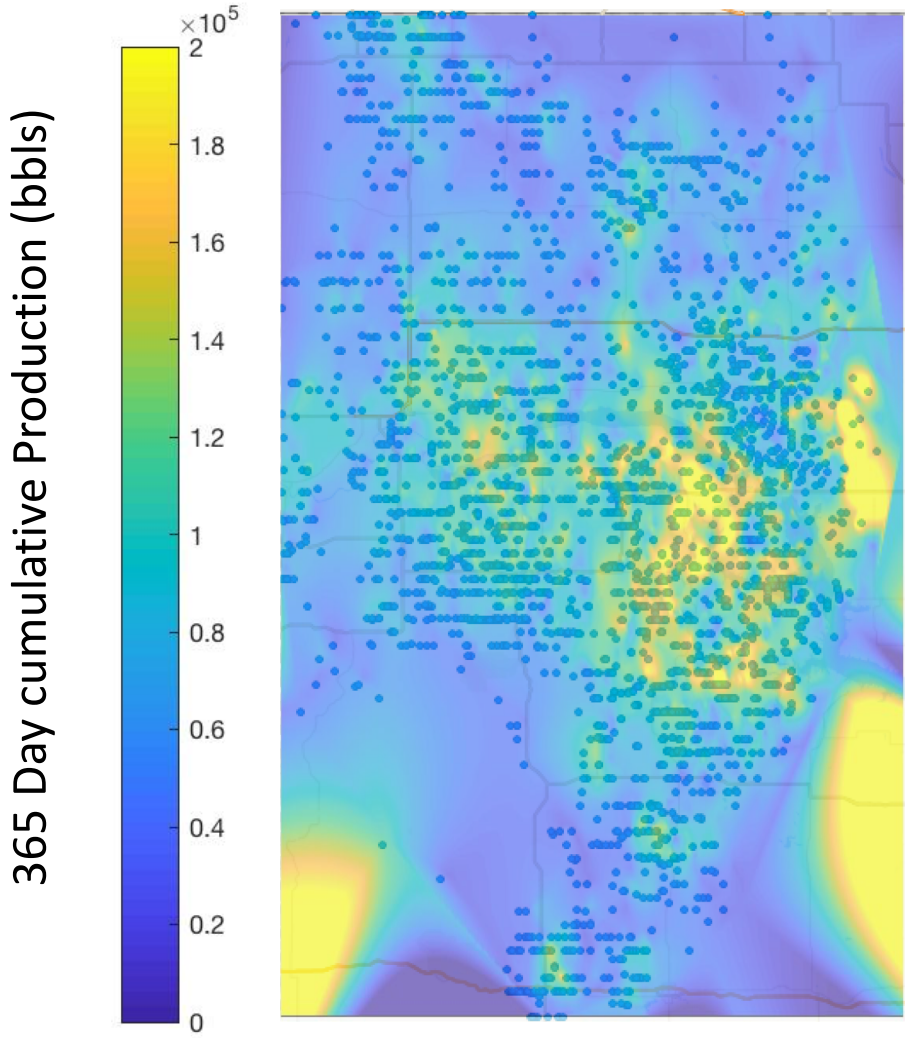
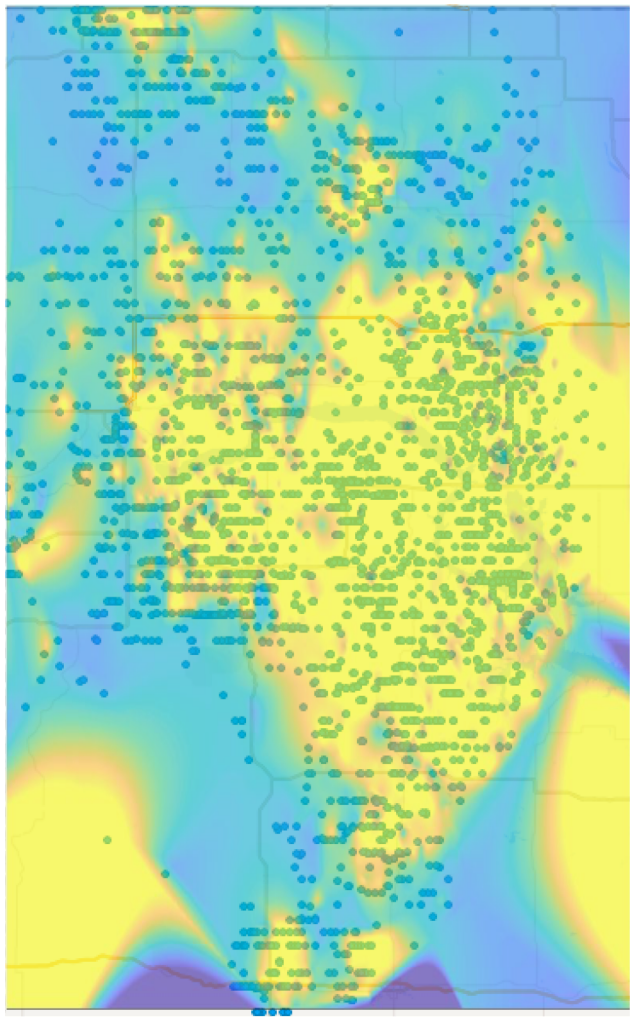
Customers: ML Optimization for Production

Current Production

Optimized Production





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Investors: Summary Investment Highlights

Leadership	**Advanced proprietary data management and analytics SaaS platform purpose built for oil & gas**
Total Addressable Market (TAM)	**Vast $60bn+ greenfield opportunity in oil & gas alone**
Technology & IP	**Combines advanced machine learning & data/insight visualization software with proprietary data consortium**
Customers	**Strong momentum across multiple blue-chip customers; targeting $10mm+ ARR within 12 months and a clear path to $100mm+ ARR**
Financial Model	**Explosive growth, high visibility, scalable SaaS subscription model**

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Investors: Opportunity in Rapidly Growing Start-up

- **OAG is raising $10mm in equity financing to accelerate revenue growth**
- **Founder provided seed investment**
- **Angel investors contributed to R&D and initial go-to-market**

We used our initial funding to help build and prove our software

Then we grew our customer pipeline and our core team

We are raising capital to accelerate growth

All of the pieces are in place, the strategy and market have been proven

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Investors: Product Roadmap

Cloud-based platform to optimize oil & gas data from the wellhead to the boardroom

Insight Visualization (2018)
Expand portfolio of UI modules to visualize ML simulation insights

Physics-Based AI (2018)
Proproprietary technology to train AI with physics and subject matter expertise

ML Pipeline 5.0 (2018)
Expand search from ~50 to 1,000s of models per five minute iteration

Production Surveillance (2019)
ML well monitoring enables more control of cash flows

Asset Valuation (2019)
Rapidly simulate billions of drilling plans to identify under- and over-valued land

Field Data Capture (2019)
Optimize petabytes of underutilized sensor data

Long Term: Enable citizen data scientists in other energy and industrial processes

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Case Studies – Track Record of Value Creation

Multiple 10% capex reductions for full asset drilling programs

	Customer Profile	Outcomes
Large Permian Independent Optimized completions, spacing and drilling locations for 2018 development plan	• Isolated data signals on effect of proppant on production in less than two weeks • Analyzed 1,500+ wells using proprietary, subscription, and public data sources	• **$110M annual savings in less than 6 months** • Cost ↓ ~$500K per well (~6%) • ROI: 20x in less than 6 months
Large Williston Independent Forecasted performance of super fracs vs slickwater in customer's Bakken acreage	• Optimized RMSE among 350 machine learning models using data from entire basin • Analyzed 10,000+ wells using propritetary, subscription, and public data sources	• **Reduced well cost by 11.5% ($400,000) per well** • OAG Insights indicated super fracs would outperform slickwater in this AOI by 10% • Completed study 90% faster than reservoir simulation
Large Permian Independent Provided capital efficiency insights to large Permian oil and gas program	• Isolated 50 data signals on the effects of key production drivers on both oil and gas production • Analyzed rock and completion data for 900+ wells	• **Improved capital efficiency of pilot/test well drilling and completion program by 17.2%** • Consistent predictive accuracy for both oil and gas production

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Customer Experience – Deploying Upstream Machine Learning

No new hires | No new infrastructure | No desktop software to maintain

1. Data Onboarding (~2-4 weeks)
   - Configure automated data engineering pipelines
   - Identify primary system drivers with AI and machine learning
   - Integrated data review

2. Workflow Integration (~4-8 weeks)
   - Train predictive machine learning models
   - Identify uplift potential of well optimization insights
   - Evaluate explanatory insights from rock data

3. Insight Visualization and Operational Deployment (~2-4 weeks)
   - Visualize insights for prioritized business objectives
   - Map uplift insights to wells in current development plan
   - Citizen data science self-service training

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