

ANTON Total Solution of Breakthrough Creating Stimulation Service Mode



ANTON must set the goal of creating breakthrough contributions for oil and gas field customers, and through comprehensive innovation, create groundbreaking contributions to boost sustainable development, growth and progress of ANTON. Only with the goal of creating groundbreaking contributions can we have more reasons to request customer support for ANTON's market access and its specialized and regular services, which provide an environment for creating the groundbreaking contributions. Only with the goal of creating groundbreaking groundbreaking contributions can we request customer's assistance, empower collaboration, and joint innovation. ANTON won't quit seeking opportunities and make every effort to create breakthrough contributions for customers.

- For the unconventional oil & gas reservoir stimulation, single technical service is often difficult to achieve significant effect. Only through the total solution to truly achieve breakthrough on stimulation effect.
- □ The existing oil&gas well stimulation must to absorb new technological achievements and upgrade the system every few years due to the technological progress.

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- High performance goals: aim at reservoir value depressions of unconventional, high investment, and low per unit yield
- Customization: form a set of regional standardization solution with the combining of geological engineering and specific conditions of oil&gas fields
- Total solution: technical solution, process management solution, organization incentive solution
- Implementation method: integrated approach of research, engineering testing, promotion and application
- Joint Innovation: Joint Innovation between Oil Companies and Technical Service Companies

ANTON Total Solution Innovative Service Mode six-step method ANTON 安東



With the help of systematic innovative methods, forming customized solution services for oilfield stiumlation



1. Search for innovation opportunities, conduct extensive research and exchange, **ANTON** 安東 discover innovative projects, and propose exciting innovation vision goals

Join the frontlien to understand the situation of oilfield, search for value despression, unleash imagination, and propose exciting innovative visions.



- Enter the oilfield: Technology companies initiatively enter the oilfield and understand the situation
- Invited to the oilfield: Oilfield companies invite technology companies to the oilfield for the external technologies and practices
- **Partner:** Achieve intentions of cooperation and establish cooperative organizations

cooperation

- Common goal: Propose high performance goals for maximizing reservoir value
- Sharing: Share knowledge, service resources and achievements
- Sharing and co-creating
- **Co-creating:** Joint participation, shared decision making, shared risk





2. Focus on fine research, forming conceptual designs, and propose the feasibility of achieving project high-performance goals

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Focus on project research, conduct in-depth analysis and research on geological objectives, come down to

the bedrock, seek breakthroughs, put forward insights, draw the conclusion of "Is it worth doing? Can

we do it? How to do it", put forward conceptual design, to form solution as"theoretical prototype".





3. Use technology integration solution, fine engineering design solution, and simulation to ensuring one-time success

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Aiming at production, on the basis of oil & gas reservoir geology and understanding the main control factors of productivity, Drawing on the previous construction experience and the latest technical achievements at home and abroad, learn widely from others' strong points and integrate multiple disciplines, put forward targeted technical measures and preliminary engineering design to form a solution "virtual prototype".



Oriental wisdom, Global sharing

4. Real time iteration of construction, verification of single well construction, and optimization of multi well

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Through single well construction verification, real-time iteration, dynamic adjustment and optimization, combined with intelligent and visual methods, use man-machine mix, and real-time optimization of targeted technologies and measures to form the solution of "minimum feasible prototype". If the effect is not ideal, timely adjust the plan, and then proceed on-site application, continue to optimize and improve to create the "minimum excellent prototype", and achieve a breakthrough from 0 to 1.



Real time iterative optimization of "intelligent" office scenarios



- Low-cost trial and error: Verifying on conventional wells deployed by Party A, only a small additional cost will be added
- Multi-well test: never depend on the success of one well, but on the continuous process of optmization
- Turn direction in time: if a single well fails, turn the direction and adjust the plan in time

5. Standardized promotion and lean operation management guarantee ANTON 安東

- After successful single well verification, summarize and improve further to form mature solutions "optimal solution".
- Combining single well "optimal solution" with regional stimulation, to form a regional standardized solution and realize promotion from 1 to N.

ANTON lean operation system engineering: constantly improve the standard, practice the best in the region, constantly find customer dissatisfaction.



6. Organization incentives, joint innovation between Party A and Party ANTON 安東 B, and sharing of project achievements

- Organization: Joint innovation, both parties closely cooperate, the highest level directly participate. Both parties establish special project teams for multi-professional collaboration, efficient organization, and rapid decision-making.
- Incentive: Innovative business mode, share project achievements, incentives can be recieved by both parties' project personnel.



Summary

The ANTON Total Solution of Breakthrough Creating Stimulation Service Mode is essentially a joint innovation mode between Party A and Party B. •On the one hand, oil companies regard service companies as carriers for innovation and give them more freedom. •On the other hand, service companies base on on-site innovation in oil fields with more investment in technology and more responsibilities.

•Organizing together, proposing ideas, colliding and empowering with each other, making the impossibility becomes the reality.

High	 Innovation requires setting goals of exciting vision and high performance projects.
Goals	intovation requires setting goals of exeiting vision and high performance projects.
Low	• Trial and error at low cost, exert every effort to cut the cost.Verification on conventional wells or
Cost	construction projects deployed by Party A will not cost or only cost a little.
High	• Spare no efforts on innovation, which requires leaders' personal participation, passion, key technicians
Input	allocation, real-time attention, to show innovation enthusiasm and dedication.
Low	•Minimize the consumption in non-innovation parts, give service companies more freedom to participate in the innovation of oilfield development, and minimize the adjustment of existing institutions of oil companies, the use of technical talent resources,
Consumption	and the change of existing organizational mode.
High	• The standardized solutions obtained from the preliminary work of one well or several wells can be used for
Return	regional promotion, so as to achieve tens or even hundreds of times of return on income.
Low	• Fast trial and error, loop test. Through systematic experiment to ensure the success of customized solution
Risk	and reduce the risk of customized service as much as possible.



Oriental wisdom, Global sharing.

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