



Multilateral Well Completion Technology

TAML 5

2022

ML One summary

Specialisation

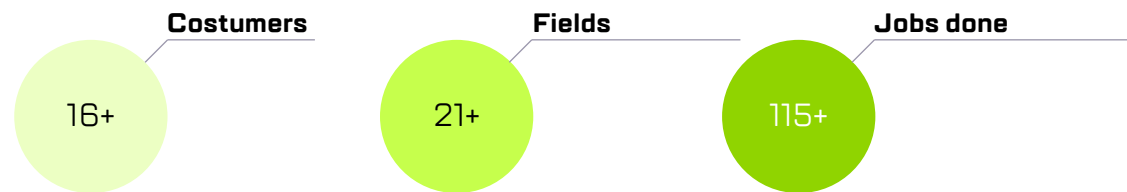
TAML 1-5 R&D and manufacturing of downhole equipment, technology support for multilateral well completion operations.

Options Development of comprehensive well completion solutions - integration with MSF, ICD, Plug&Perf, etc.

Application

Geology Development of field potential: hard-to-recover reservoirs, thin layers, oil rims, etc.

Projects Optimization of surface infrastructure, reducing drilling time.



In-house design bureau

- 1 obtained patent
- 3 patent applications submitted
- 7 know-how projects



Engineering Focal Point

- 6 service crew units
- 5+ years average experience of field personnel



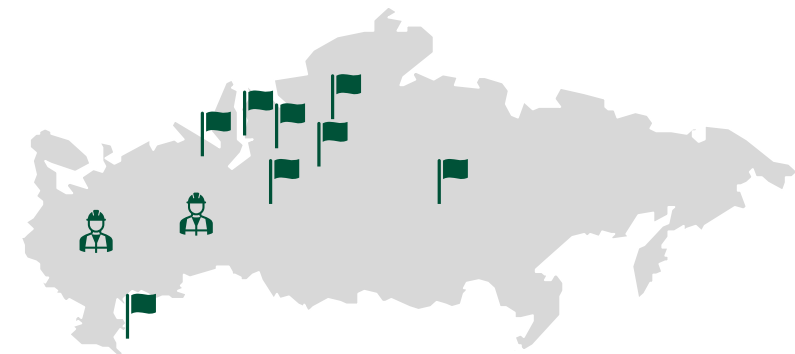
Manufacturing facilities

- 10+ machines
- 45-60 days equipment delivery time

Key Customers



Regions of operation in Russia



Key features

Commitment to high quality standards of equipment produced and services provided

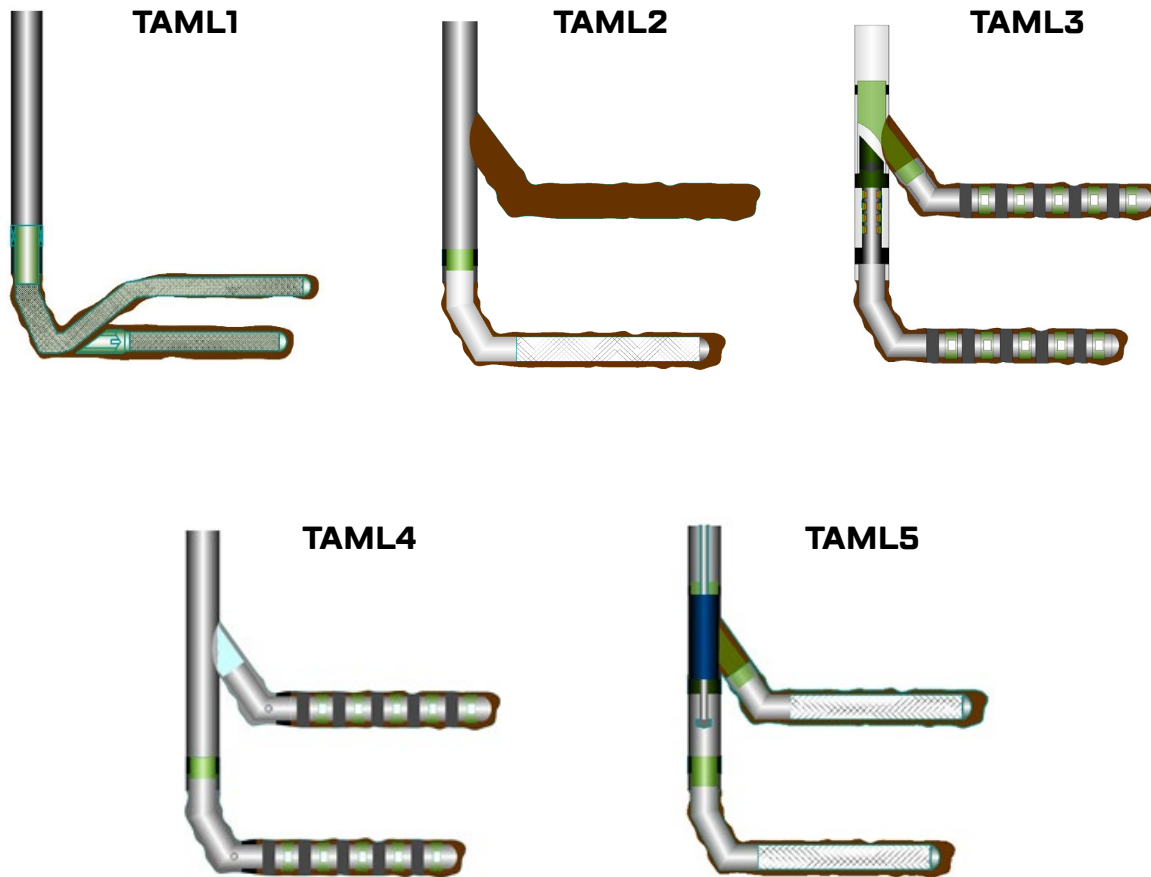
Technology

Implemented projects	TAML 1, TAML 2, TAML 3 lite, TAML 3 OH, TAML 4
SIT	65+ workshop testing of new systems
Technology in progress	TAML 1 IC, TAML 3 FR, TAML 5 lite, TAML 5
Quality Systems	ISO 9001:2015, ISO 14001:2015, ISO 45001:2018
Qualification	ADNOC (WG: Whipstock Services) Gazprom Neft PAO, Oil Company Rosneft PAO

Guidelines

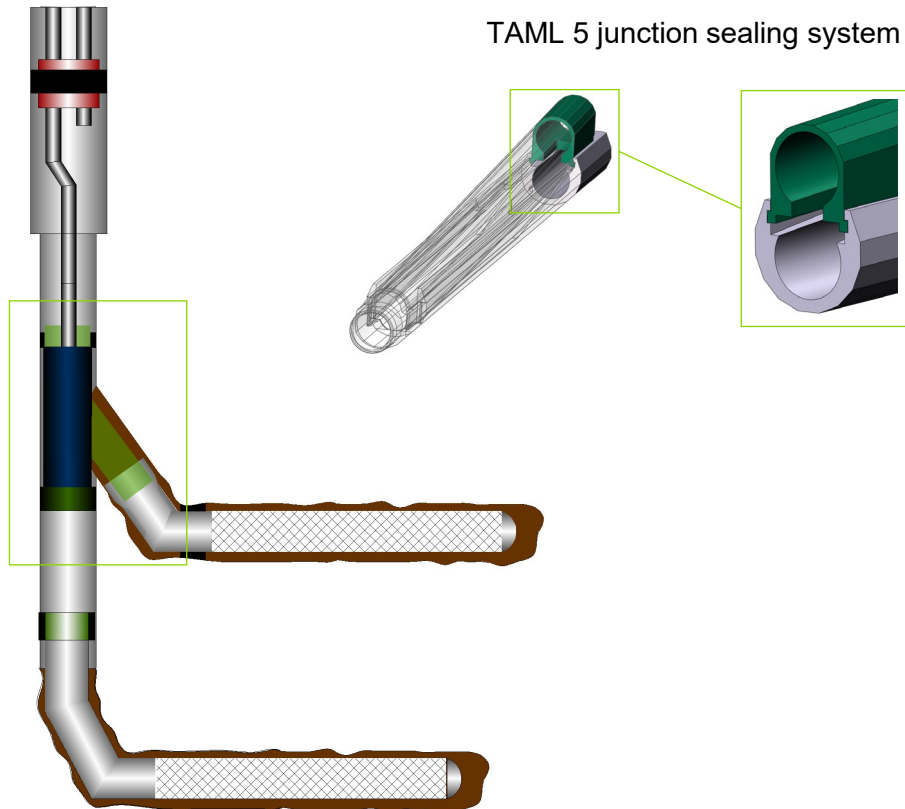
- ▶ In-house multilateral well completion technologies.
- ▶ Tailored systems to unique customer requirements.
- ▶ Multilateral technologies flexibility - developing integrated well completion solutions.
- ▶ Reduce CAPEX of well construction through replication of ML Wells.
- ▶ Additional “tool” of field development planning.

TAML classification



- TAML1* Sidetracking is performed from the open hole via the production non-retrievable whipstock. Both main bore and lateral are equipped with liner.
- TAML2* Sidetracking is performed from the cased hole via the unique retrievable casing exit system. The developed solution allows not only to maintain production from the main bore, but also to provide access to the lateral which can be equipped with liner (optionally).
- TAML3* The system is applicable for cased & unique open hole wells; ensures mechanical integrity of the window interval and permanent selective access into both laterals without additional equipment.
- TAML4* Sidetracking is performed from the cased hole. TAML 4 completion level involves casing and cementing of the window interval; selective fullbore access to the laterals; the possibility of using a permanent deflector.
- TAML5* TAML 5 technology provides hydraulic integrity of window interval due to special sealing design of the junction. The junction design enables access to both laterals without additional equipment throughout the well life

Multilateral well completion system – TAML5



Description

- ▶ Total amount of trips to deploy the system – 6
- ▶ Available for following casing sizes: 9-5/8", 7"
- ▶ Junction installed in one trip
- ▶ Unique M2M junction sealing
- ▶ Mechanical and hydraulic integrity of window interval
- ▶ Permanent selective access into the lateral and mainbore

Technology advantages

- ▶ Possibility to integrate with any completion systems:
 - Ball-Drop MSF system, Plug&Perf
 - ICD
 - Dual completion / Separate production from each hole
- ▶ Optional junction design – TAML 5 lite
- ▶ Applicable for new well construction and sidetracking with keeping the mainbore in production

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More about
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