

Product Supplement for PetroVR

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Introduction

PetroVR is a software application used for development planning and decision-making in all kinds of oil & gas upstream asset exploration and production (E&P) ventures, including onshore, offshore, conventional, unconventional, and energy transition projects. It's designed to empower users to evaluate and manage risks across diverse dimensions spanning the entire opportunity lifecycle, including geological uncertainties based on sub-surface reservoir analysis, technical challenges related to surface infrastructure constraints, and economic modeling based on financial considerations.

The Software allows users to model different scenarios, analyze data, and make informed decisions to optimize the performance and profitability of their projects. Dynamic drilling schedules and facility networks with routing rules and capacity constraints are among its key features, augmented by an extensive suite of sensitivity and scenario modeling tools. At the core of PetroVR lies a time-driven Simulation Engine solving schedules, resources, and constraints with daily granularity. Petroleum engineers and planners leverage PetroVR to delve deep into the complexities of major asset-level decisions. By carefully analyzing technical development options and navigating multiple resource constraints, stakeholders may gain invaluable insights into the trade-offs inherent in their plans and scenarios.

The economic module within PetroVR further enhances its utility. This module allows for the application of international fiscal regimes to the physical model, completely customizable inside the application. Additionally, seamless integration with Quorum Planning Space regimes provides users with an opportunity to directly apply the economic assumptions used at the Corporate Level of their company.

Software License Options and Metrics

This document defines the Standard Functionality and Add-Ons together with applicable license metrics that are available for Customer's access under mutually agreed PetroVR Self-Hosted Subscription Order(s). Such Order(s) shall specify the selected Add-On(s) and authorized license metric quantity.

Vendor may update or revise this Product Supplement from time to time. Updates will be made available within this document including the date of change as well as a change log. New versions will enter into force immediately, except for any ongoing annual or committed Subscription Term, for which the previous version will apply until the end of such ongoing term, subject to the terms of the Agreement and Order. Customer should review the Product Supplement prior to using the Software to stay informed about the applicable license metrics. Capitalized terms are defined herein, in the Order, or the Agreement for the purchase of the Subscription(s).

Description of PetroVR Standard Functionality and Add-Ons

PetroVR Standard Functionality

The PetroVR Standard Functionality is the foundation of the PetroVR software and includes functionalities to understand the risks and impacts of your asset development options to accelerate to production by empowering customers to transforming the E&P decision process with a full-cycle asset exploration and development simulation system.

The Standard Functionality focus on requirements for engineers and planners, including the following:

- Reservoir Volumetrics, geologic risks, fluid characterization
- Drilling Scheduling and Optimization
- Surface Layout with facility network, stream separation, capacity constraints, maintenance and downtime
- Scenario Comparison
- Full Monte Carlo Simulation Engine enabling risks and uncertainty on all input variables
- Sensitivity Tools
- Economic engine with readiness to connect to Corporate-Level models built in Quorum Planning Space

PetroVR Add-Ons

Several Add-Ons for the Petro VR Software are available, and they can be separately licensed in addition to the PetroVR Standard Functionality.

The following Add-Ons are currently available for PetroVR:

- **Thermal:** Functionality for advanced thermal recovery simulation, which aids in optimizing steam-oil ratio and evaluating the financial implications of thermal extraction methods.
- **Scenario Planning (SP):** Functionality to enable users to create, analyse, and compare multiple development scenarios, incorporating Monte Carlo simulation for risk assessment and decision support.
- **Multi-Core Processing (MCP):** Functionality for leveraging modern multi-core computing environments, which enable significantly reduced Monte-Carlo run times, allowing for more comprehensive analysis within shorter periods.
- **Planning Space link Economics as a Service (EaaS):** Functionality for running Planning Space economic models on PetroVR project, enabling the evaluation of their financial performance with strict alignment with the economic assumptions of corporate level. A PetroVR project can be integrated in the context of a whole hierarchy of Planning Space projects, enabling advanced calculations such as ringfencing. A pre-requisite for licensing and implementing this Add-On is that Planning Space is licensed and properly installed.

General PetroVR Licensing Terms

The PetroVR Software is licensed separately for the Standard Functionality and each Add-On according to the licensing scheme described in the Agreement and the Order (including this Product Supplement). Unless otherwise stated, a pre-requisite for licensing and implementing Add-Ons is that the PetroVR Standard Functionality is licensed and properly installed.

Subject to the terms of the Order, an PetroVR Software Subscription entitles Customer to receive access to the Standard Functionality and selected PetroVR Add-On(s) in connection with and for the benefit of the authorized Number of Licenses, Permitted Users and Territory of Use ("License Metrics") as applicable and defined in the Order.

The Standard Functionality and Add-Ons are licensed under a scheme where the following metrics are used to determine the annual Subscription Fee(s).

Metric Definitions

- **Concurrent Users:** means a designated number of seats that can be used by an unlimited number of named users, with only one user per seat allowed at a time. A single named user may utilize multiple seats simultaneously up to the designated limit to access an equivalent number of concurrent sessions. If a single named user is currently utilizing a seat and integrating with another Quorum product, then this does not trigger and/or utilize an extra licensable concurrent session of PetroVR. However, it is important to note that the other Quorum product must have its own valid license.
- **Number of Licenses:** The authorized number of Concurrent Users within the specified Territory of Use should adhere to allocation limits. For instance, if Customer opts for X Users in the EMEA Zone and Y Users in the APAC Zone, they cannot surpass X Users in the EMEA Zone, regardless of the current count in the APAC Zone. If the Territory of Use is Global, the total Concurrent Users can be distributed across any Territory of Use without specific territory-by-territory limitations.
- **Territory of Use:** The designated territories within which Customer's use of the Subscription is permitted, which territories are defined by time zone as: (i) Global (all time zones); (ii) NALA or CAN Zone (GMT-12 to GMT-2); (iii) EMEA Zone (GMT-1 to GMT+6); and (iv) APAC Zone (GMT+7 to GMT+12).
- **Permitted Users:** The Customer and its Affiliates and third parties within the Territory of Use whose employees can be designated as Concurrent Users within the parameters of the Number of Licenses. Affiliates are defined as either (i) all Customer Affiliates in the authorized Territory of Use on the Order's Effective Date,

or (ii) those identified in the Order. If neither is chosen, Permitted Users are limited to the Customer legal entity executing the Order. Third-party Concurrent Users are authorized according to the Agreement.

The Standard Functionality, selected Add-On(s) and the applicable initial License Metrics are identified in the Order together with any special terms agreed between the Parties.

Changes to Metrics

Renewal Terms: Before each renewal term, the Vendor is permitted to access and review Customer's usage information (including Number of Licenses, Permitted Users and Territory of Use) for the previous twelve months to determine the Fees for the next renewal term.

Exceeding License Metrics: The Licensed Materials may be used for no more than the License Metrics. Additional entitlements must be paid in the event usage exceeds the License Metrics, at the pricing in effect at the time the additional entitlement is added.

Increasing License Metrics During a Subscription Term: When increasing the License Metrics level during an ongoing Subscription Term, the difference in Subscription Fee(s) is calculated at the year of the increase and an additional Subscription Fee will apply as of the triggering event until the remainder of the ongoing 12-months period and will be invoiced in full the month after setting the higher License Metrics level. Thereafter, the applicable Subscription Fee(s) are again invoiced annually in advance for each annually recurring 12-months during the committed Subscription Term.

No Decreases to License Metrics During a Subscription Term: Customer may not decrease the Licensed Metrics during the initial, committed and/or an ongoing Subscription Term.

Delivery of the Software: The Software Subscription(s) will be delivered to the Customer on or before the License start date specified in the Order. Delivery shall be deemed to occur upon the Software being made available to the Customer, including but not limited to the physical delivery of media, provision of a download link, provision of login credentials, the issuance of license keys or any other means by which the Software is made available to the Customer. If access to the Software includes access to Module(s) or Add-On(s) of the product suite for which Customer has not procured a Subscription, Customer is not entitled to extend the use of the Software to such additional Module(s) or Add-On(s) without procurement of additional Subscription(s). Any hardware and software needed for the Customer to access the Software shall be at the Customer's responsibility to acquire, install, and maintain.

An Order for the relevant Software Subscription must be in place before starting any design, configuration, and/or implementation activities in the Software.

Change Log

Date of Change	Details of changes
May 7, 2024	Initial Release
October 24, 2024	Software Delivery Update