Hydrocarbon Management

Increase value from data with the industry's leading solution

energy components
by Quorum Software

Introduction

For more than three decades, Energy Components by Quorum Software (EC) has been the industry's flagship solution for production reporting, allocation, and hydrocarbon accounting. With 650 licenses installed 55 countries, EC manages a significant portion of the world's production of hydrocarbons, making it the global industry leader.

Today, our solution has been successfully adopted in all major oil and gas regions. With support for core business functions across the energy value chain, EC has evolved and advanced over 30 years in close collaboration with leading companies in the oil and gas industry. Today, more than 100 oil and gas companies, including all supermajors, use EC as an industry-standard solution.

Accumulating a wealth of experience over the years, EC has evolved as more knowledge has been captured and new functional areas have been added to the product suite. This is a natural consequence of our ambitious product strategy. From delivering regional production-based solutions in the North Sea to providing complete business solutions globally, EC has now developed into an end-to-end hydrocarbon management solution.

Since **1985**

400 Experts in **12 Countries**

650 Installations Across 55 Countries

100+ Customers

#1 in Hydrocarbon Accounting*

*IDC MarketScape

Stepping up to
Hydrocarbon Management

Within the energy industry, there is a clear agenda and a variety of initiatives to increase the value derived from data. Overtaking oil as the world's most valuable resource, data is the driver for advanced analytics and decision support, helping energy companies avoid unplanned downtime and losses in productivity.

As EC holds the official record of all production data, Quorum Software is uniquely positioned to help its customers maximize the benefits that they can derive from it. Through continuous dialogue with our customers, we have worked hard to bring forward new initiatives to increase the value of this data store. Our collaboration has resulted in the addition of EC mobility, enhanced deferment and well testing functionality, improved visualization, and process automation.

Quorum Software offers hydrocarbon management modules to support its customers in their operational decisions, with a resulting increase in production, profitability, and operational excellence.

EC Production Optimization helped a Brazilian multinational oil and gas company to achieve a five percent increase in daily oil production, provided decision support to engineers, and created a platform for optimization and design of new FPSOs.

5%

Solutions for the entire
energy value chain

All operators need to keep records of extractions from the reservoirs, the amount consumed, re-injected, or disposed of, and the delivery and transport of oil and gas to buyers and other facilities. EC strengthens upstream and midstream businesses by offering fully integrated functionality that supports hydrocarbon accounting, integrated asset modeling, optimization, forecasting, and decision support.

EC is an integrated hydrocarbon management solution that supports the needs of all oil and gas operations. For each area, a full cycle from forecasting to accounting can be handled, allowing performance to be tracked against forecasts and targets at all levels. EC supports various businesses involved in the hydrocarbon value chain, such as:

- Offshore and onshore production
- Oil, condensate, LPG terminals
- Gas transport / pipeline operations
- LNG operations
- LNG terminals
- Gas plants

- Gas sales
- Revenue accounting
- Management of partner-operated assets
- Governmental hydrocarbon accounting

Energy Components
Product Suite

The EC product suite offers unprecedented support for the whole upstream and midstream value chain, with dedicated support for production operations, terminals, gas plants, LNG facilities, and more. Our strategy is to offer one integrated solution for the global energy industry. The portfolio consists of the following fully integrated solutions that share the same underlying database and platform.

Optimization & Decision Support

Well Performance Monitoring	Portfolio Offtake Planning	Pipeline Dispatch Optimization
Well Test Intelligence	Portfolio Feed Gas Planning	Grid Constraints Management
Short Term Production Optimization	Terminal Optimization	Curtailment Decisions
	Shipping Optimization	Pipeline Routing Optimization
	KPI Driven Evaluation	KPI Driven Evaluation
EC Upstream Management	**EC Cargo Management**	**EC Pipeline Management**

Asset-wide Analysis

Fluid Management

Data & Engineering Model Integration

Integrated Optimization

EC Integrated Asset Modeling

Oilfield Chemistry

Chemical Management

Laboratory Management

Planning & Operation

Flow Assurance & Integrity Management

EC Chemistry

Chemical Discharge

Emission Tracking

Optimization & Compliance

EC Environmental

Hydrocarbon Accounting

Production Operations	Cargo Planning & Forecasting	Sales Dispatching	Financial Transactions
Production Planning & Forecast	Terminal Operations		Financial Items
Production Testing	Gas Sales Forecasting	Price Determination	Cost Handling
Well & Reservoir	Gas Dispatching		Inventories
Hydrocarbon Accounting	Pipeline Inventory	Sales Allocation	Quantities
Deferment Management	Capacity Management		Forecast
EC Production	**EC Transport**	**EC Sales**	**EC Revenue**

Mobile Apps

Field Data Capture

Transport

Platform

EC helped a leading upstream oil and gas exploration, development, and production company in the middle east through short-term production optimization and decision support, resulting in an approximately ten percent increase in daily oil production.

10%

Optimization and
Decision Support

EC Upstream Management

EC Upstream Management contains components for well performance monitoring, well test intelligence, and short-term production optimization. Well performance monitoring detects if wells are not performing as expected, triggering notifications when unexpected events occur. Well test intelligence covers automatic detection of stable periods, accurate calculation of well test shrinkage factors and flowing composition, and automatic acceptance of well tests. Short-term production optimization provides functionality to optimize how the asset is operated on a daily basis by maximizing oil production and minimizing operational costs. EC Upstream Management provides its users a dedicated management dashboard to evaluate optimization results and scenarios.

EC Cargo Management

EC Cargo Management provides a solution for managing an optimized portfolio-wide Annual Delivery Program (ADP) and Short Delivery Schedule (SDS). It facilitates optimized robust plans contributing to increased profitability with a minimized need for third-party cargoes, vessel chartering, and optimized feedstock and send-out schedules. The EC Cargo Management module is a collection of tools that provides tailored workspace in EC. Its KPI-driven evaluation, efficient scenario management, and analysis provide tremendous value to our customers. Adding more weight to this offering are the EC optimization framework and its powerful visualization.

EC Pipeline Management

EC Pipeline Management provides a dedicated workspace to plan large and complex pipeline distribution networks efficiently. EC Pipeline Management facilitates optimized robust plans contributing to increased profitability, minimizing curtailment needs.

Asset-wide
Analysis

EC Integrated Asset Modeling (IAM)

EC IAM allows oil and gas companies to graphically and computationally integrate models and optimize petroleum assets. Any third-party or in-house models, simulators, and data sources can be integrated to form a unified model spanning the value chain. EC IAM provides sensitivity assessment and optimization capabilities to define business opportunities dependent on complex cause-and-effect dependencies affecting the entire value chain. EC IAM is used to optimize field development plans, model how changes to existing infrastructure affect bottlenecks and asset performance, and improve long-term planning and reservoir recovery strategies.

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We expect to produce 0.1% to 0.5% more with EC in place, as it will be easier to optimize our production. The EC team's experience with the business requirements and applications needed for a production allocation system of this magnitude has been critical in the project's success.

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Exploration & Production Manager
A leading Australian Energy Group

0.5%

Hydrocarbon
Accounting

EC Production

EC Production covers the functionality required by upstream organizations for production management, allocation, and reporting. It is relevant both for owned and partner-operated assets.

EC Transport

EC Transport covers functionality employed when transporting hydrocarbons either through pipeline systems, trucks, or vessels. It is used by the party operating the transport system and shippers.

EC Sales

EC Sales supports the sales organization in selling and/or trading hydrocarbons, including complex gas sales contracts management. This is relevant both for owned and partner-operated assets.

EC Revenue

EC Revenue handles invoicing and controlling any data relevant for revenue recognition, including a two-way interface with financial accounting systems. It is relevant both for owned and partner-operated assets.

Oilfield
Chemistry

EC Chemistry

EC Chemistry is a plug-in extending EC Production and EC Transport with tools for chemical management, flow assurance, and integrity management. EC Chemistry can automate data management and use smart indicators to provide information about system risks, status, and trends as a decision support tool. With available and relevant information, better predictive decisions can be made to reduce the cost of operation, risk of failures, downtime, and costly interventions.

EC Chemistry toolbox includes:

- ❯ Chemical quality, health, and safety information for desktop/mobile
- ❯ Chemical inventory management for chemical availability and demand planning
- ❯ Chemical usage and performance management for injections and batch treatments
- ❯ Laboratory and field analysis for use with performance tracking and risk scorecard

EC Environmental Management

EC Environmental Management extends EC Chemistry with tools for monitoring and reporting discharge and emissions related to oil and gas operations. It includes tracking chemical discharge and the discharge of harmful compounds to the environment, using release and distribution models.

EC Environmental Management includes emission tracking from production and operations with respect to both harmful substances and climate gases from operation required by regulatory authorities. With EC Environmental Management, it is possible to assess and optimize operations to find the balance between efficiency and environmental footprint.

Mobile
Apps

Field Data Capture (FDC)

EC Field Data Capture (FDC) is a productivity tool designed for field operators. A field operator's job is to ensure optimal production of oil and gas from the field. It includes capturing meter readings and observations and reporting these back to the operations office. FDC is designed to assist the operator in capturing this information in the field and transferring this information back to the main EC installation for the operation.

The main objective of EC (Mobile) FDC is to provide an application that runs on hand-held devices to capture production data while in the field and transfer them to EC, when available. The solution enables local storage of required data to a hand-held device and provides data capture when offline.

EC IAM helped a Norwegian multinational energy company save USD 750 million by optimizing the field development strategy.

$ 750 m

Our Global
EC Footprint

North America

Headquarters
811 Main Street
Suite 2200
Houston, TX
77002

Tel: +17134308600

Calgary
250 – 2nd Street S.W.
Suite 800
Calgary, AB
T2P0C1

Tel: +14032703270

College Station
1700 Research Pkwy
Suite 100
College Station, TX
77845

Tel: +17134308600

Dallas
717 N Harwood Street
Suite 800
Dallas, TX
75201

Tel: +17134308600

Denver
1125 17th Street
Suite 2550
Denver, CO
80202

Tel: +17134308600

Fort Worth
5801 Edwards Ranch Rd
Suite 200
Fort Worth, TX
76109

Tel: +17134308600

Houston Clear Lake
2525 Bay Area Blvd
Suite 500
Houston, TX
77058

Tel: +17134308600

Latin America

Argentina
Teniente General E. Racedo 1591.
Ezeiza, Buenos Aires

Tel: +541150750387
Tel: +541142957577

Brazil
Avenida Presidente
Wilson 231, Salão 1402
Parte, Centro – RJ

Tel: +552135546671

Colombia
Calle 72 #7-82
Piso 8
110221 Bogota

Tel: +573016602811

Europe

Czech Republic
28. října 3346/91, Tieto Towers
CZ - 70200 Ostrava

Tel: +420597159900

Netherlands
Laan Corpus den Hoorn 300
9728 JT Groningen

Tel: +31507890060

Norway
Vestre Strømkaien 7
5008 Bergen

Tel: +4721706000

Norway
Karenslyst Allé 53
0279 Oslo

Tel: +4721706000

Norway
Vestre Svanholmen 4
4064 Stavanger

Tel: +4721706000

Norway
Verftsgata 4
7042 Trondheim

Tel: +4721706000

Spain
Avenida Diagonal 458, 4-B
08006 Barcelona

Tel: +34936289900

UK
Spaces, 1MSq Marischal Square
AB101FY Aberdeen

Tel: +441224320300

Helsinki
Kaupintie 3 E, P.O.Box 8
FI-00441 Helsinki Finland

Telephone: +3582072010

Asia-Pacific & Australia

Australia
480 Queen Street, Level 27
4000 Brisbane

Tel: +61863818800

Australia
316 Adelaide Street, Level 9B
4000 Brisbane

Tel: +61731486728

Australia
216 St Georges Terrace,
Level 11, 6000 Perth WA

Tel: +61892782590

New Zealand
571 Great North Road,
Unit 2 Grey Lynn, 1021
Auckland

Tel: +6421892823

Indonesia
MidPlaza 2, 7th Floor
Jl. Jend. Sudirman Kav 10-11
10220 Jakarta

Tel: +62215703188

Malaysia
Technology Park
Malaysia, Enterprise 4
57000 Kuala Lumpur

Tel: +60390781530

Malaysia
Level 26, Menara Maxis
50088 Kuala Lumpur

Tel: +60361432225

Singapore
60 Paya Lebar Road
#04-43 Paya Lebar
Square,409051 Singapore

Tel: +6568007940

India
No 12, SAPTHAGIRI NHBC
Layout Prashanth Nagar
Near Vishnuvardhan Part
560079 Bangalore

India
Wing 1, Cluster D, EON Free Zone
MIDC Kharadi Knowledge Park, Pune
Maharashtra IN - 411014 India

Telephone: +912067303000

Vietnam
Suite 4, 6th Floor,
BCONS Tower
4A/167A D1 Street,
Ward 25
Binh Thanh District,
Ho Chi Minh City

Tel: +842838035888

Middle East

UAE
Unit AG-PF-97 AG Tower
Jumeirah Lake Towers, Dubai

Tel: +971505035169

About Quorum Software

Quorum Software connects people and information across the energy value chain. Twenty years ago, we built the first software for gas plant accountants. Pipeline operators came next, followed by land administrators, pumpers, and planners. Since 1998, Quorum Software has helped thousands of energy workers with business workflows that optimize profitability and growth. Our vision for the future connects the global energy ecosystem through cloud-first software, data standards, and integration. The trusted source of decision-ready data for 1,800+ companies, Quorum Software makes the essential connections that let us work better together in the connected energy workplace. For more information, visit **quorumsoftware.com.**