SYNTILLICA

Consulting for the Energy Industry

SYNTILLICA

Company Profile

Syntillica appreciates the new challenges that go with meeting the world's ever-increasing demands. We know that what we do and how we do it must respect not only the needs of our clients but also those of the communities and the contexts in which we operate. Securing our common future wellbeing calls for practical, creative and smart solutions. With a strong heritage in Oil & Gas, Syntillica offers expertise in geosciences, reservoir & petroleum engineering, geohazard assessment, seismic, facilities, economics and wells engineering and project management. We have deployed these core capabilities into the emerging Alternative Energy sector where wind power, carbon capture and storage, coal bed methane and geothermal are priorities. By organic growth of a technical consultant base offering numerous services, we've expanded and evolved over the years, and now operating from locations throughout the world. We deliver innovative technical and commercial solutions to clients globally.

Why Syntillica?

Syntillica was founded in 2018 as an independent consultancy business to the Energy Industry. Syntillica brings together a wide range of expert consultants offering years of rich and varied technical experience. Together they have a truly global experience base spanning all types of clients, from start-ups to super-majors and national operators which enables advisory support to the evolving Energy Industry. To help you solve challenging problems, Syntillica can provide consulting advice from a wide and extensive range of expertise in the simplest and most cost-effective manner for clients globally.

Syntillica Quality

Syntillica's hand-picked team of consultants offer a combined 5000+ years of industry experience across numerous subsurface, commercial and business disciplines. With 250+ undergraduate and 200+ advanced degrees (including 50+ PhDs) there is no shortage of quality expertise available. Syntillica offers a large and industry-experienced team, used to working together and operating within a flat organisation with minimum bureaucracy. Business and management systems have been intentionally streamlined to provide the core value-added benefit of consultant knowledge and minimum lead time for immediate mobilization. Syntillica's team are each specialists in their field and are able to work individually or together in any combination to tackle the toughest integrated projects. Using a VPS-based project management server work can be conducted from any location at any time and coordinated, monitored and shared with clients 24/7. Syntillica's core team of advisors provide consistent, project-to-project continuity and peer review required to deliver dependable results. A large contact network and minimum bureaucracy means Syntillica can quickly identify and utilise the most suitable consultants for a project rather than being forced to offer solutions from a small and incongruous choice of staff.

Services

Commercial Consulting

Syntillica provides technical and commercial assessments of individual assets, portfolios and companies that are confidential, accurate, and consistent. We have the ability to combine technical and commercial analysis to efficiently establish the core drivers and uncertainties for the opportunity or asset. Wherever possible we will propose alternatives that will enhance and add value. Our technical and commercial teams are highly specialised individuals in their own fields, but when combined and led by a senior manager provide for an efficient integrated assessment of the opportunity, its benefits, risks and potential pitfalls. We have extensive experience of commercial issues that affect valuations and will offer solutions to improve commercial aspects of the asset wherever possible. We offer a variety of confidential asset evaluation services, ranging from the assessment of hydrocarbon potential and risk from exploration data, through to the estimation of reserves and economic evaluations. Meeting international standards and definitions, such work is generally undertaken for a client's external requirements including Annual Reports, fund raising for IPOs or Rights Issues, mergers and acquisitions and project financing but also for the evaluation of potential acquisitions, takeovers and financial provisions.

The commercial consulting group focuses on independent asset evaluation building many of the same technical areas of expertise as the subsurface group.

- Annual Audits
- Data Room Assessment
- Defence Documents
- Economic Analysis
- Asset Evaluation
- Technical Due Diligence
- Competent
- Person Reports
- Investor Memoranda
- Reserve Reporting
- Exploration Evaluation
- Expert Services
- Company Valuations
- Peer review

Track Record

To date Syntillica has been trusted to provide expert multi-discipline teams to support its clients in Due Diligence work for transactions totalling multiple billions of dollars.

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Upstream Consulting

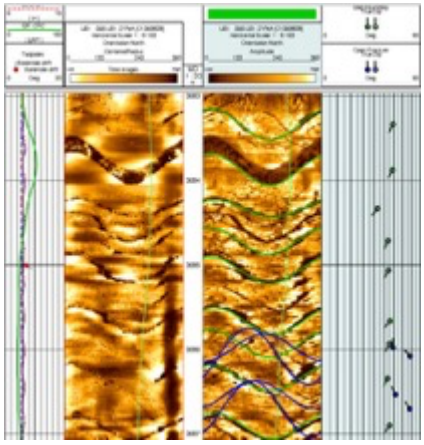
The subsurface consulting group covers a range of technical disciplines from industry experts.

With 250+ consultants with an average of 25 years' experience each, Syntillica currently offers 100+ expert services from fifteen core technical areas including Data Management, Seismic, Petroleum Geochemistry, Geology, Geophysics, Geomechanics, Petrophysics, Boreholes, Production Chemistry, Reservoir Engineering, Petroleum Engineering, Production Technology, Well Engineering, Drilling and Facilities.

By combining these services, group challenges can be accomplished which are beyond individual. These integrated services mean Syntillica can take on more complex tasks such as Exploration, Appraisal, Development, Production and Decommissioning.

Boreholes

Information from boreholes provides very detailed information useful in aiding reservoir description. Analysis of image logs can provide key tectonic information from fractures and micro-fractures orientation and scale which helps with mapping of swarms across fields and selection of drilling targets for optimum production. Sedimentological analysis can provide facies information that can support categorization of stratigraphic columns and identification of productive formations.



- Borehole Imaging
- Fractures
- Geothermal
- Microscopy
- Sedimentology
- Tool Selection
- Wellbore Productivity

Geology

Exploration for hydrocarbons and their development has become more challenging with each passing decade. Play fairways are more remote, trapping scenarios more complex, reservoir presence and petrophysical characteristics are more difficult to predict with certainty.

Understanding the geology of the areas of interest becomes more important than ever. The depositional architecture of the sedimentary environments, facies distribution, tectonic evolution and diagenetic history all have an impact on hydrocarbon volume and flow potential.

We attempt to reach this knowledge by combining traditional geological analysis and modern technology in order to produce robust models that can help in the exploration for new prospects, field development plans and identification of infill opportunities in mature fields.

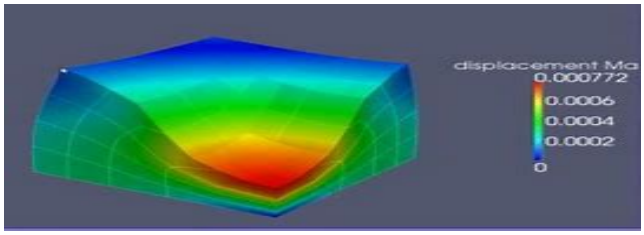
- Basin Analysis
- Fractured Reservoirs
- Static Geomodelling
- Structural Restoration
- Sequence Seismic Stratigraphy
- Volumetrics
- Well Planning
- Well Correlation

Geomechanics

Geomechanics is used to analyse drilling risks; pre-drill, during drilling and post-drilling. By integrating technical data from geology, petrophyscis and reservoir engineering data models in 1D, 3D and 4D can be developed that are useful to drilling. Well bore stability is affected by rock stresses that can cause a collapse.

Safe well trajectories can be identified in a 3D geomechanical field and completions can be designed that will withstand production-induced compaction.

At the reservoir level, geomechanical models can be used to analysis pore pressure, fault and top seal integrity, compaction, subsidence and the effects of injection / depletion on cap rock behaviour.



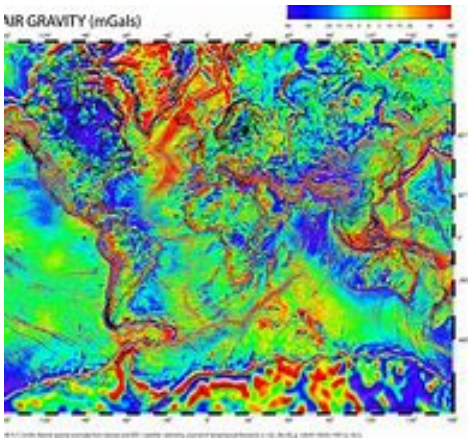
- Fault Integrity
- Mud Weights and Losses
- Pore Pressure
- Rock Failure
- Stuck Pipe
- Top Seal Integrity
- Well Trajectory
- Wellbore Stability

Geophysics

Syntillica offers expert geophysical interpretation services in exploration, appraisal and development scenarios. Interpretation of seismic data requires the geophysical technical know-how to understand the acquisition and processing flow that has produced the data.

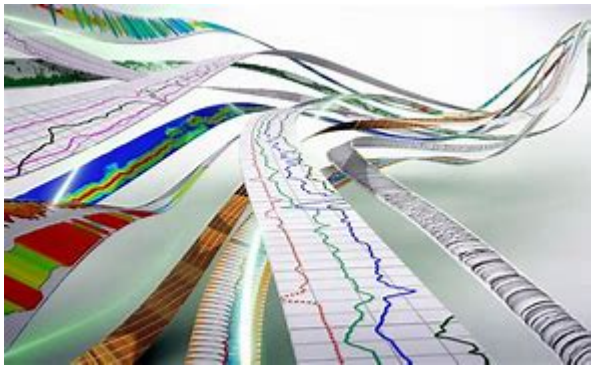
Just as significant is the ability to interpret the data expertly while aligning mapped structures and features with geological knowledge from a range of basins and settings.

Syntillica's geoscientists combine existing reports and prior knowledge with the client's geophysical, geological and other data (e.g. wells, core reports etc.) to map realistic models of the subsurface. Integration of disciplines provide the ideal basis for static and later dynamic or geomechanical models.



- Attributes
- AVO Rock Physics
- Fracture mapping
- Gravity-Magnetics
- Interpretation/Mapping
- Inversion
- Seabed Risks
- Shallow Hazard

Petrophysics



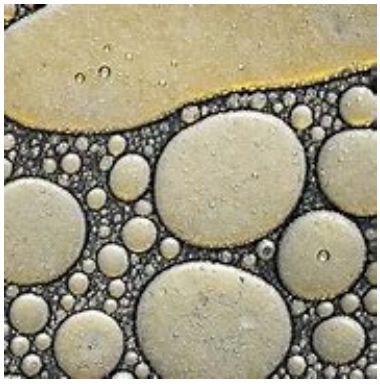
Syntillica offers expert petrophysical analysis for exploration, appraisal and development wells including desktop studies, reviews and real-time interpretation.

Interpretation of petrophysical data can have a profound impact on the volume of hydrocarbons in place and a thorough understanding of the logs is vital. Not only individual log interpretations but the combination of multiple logs in the context of reservoir type (e.g. clastic/carbonate) requires experience and a rigorous approach.

Syntillica can provide individual interpretations to correlation and analysis of log data which can be built into an audited database of wells. This can be combined with other subsurface data from geophysics, geology and geomechanics to models useful for dynamic modelling and drilling.

- Cement Bond Log Evaluation
- Formation Tops
- Integrated log interpretation
- Nuclear Magnetic Resonance
- Porosity and Permeability
- Rock Typing
- Saturation Height modelling
- Thin Beds

Production Chemistry



Production Chemistry seeks to protect business value by fully understanding the fluids we process, from reservoir to point of sale. Well and pipeline blockages, corrosion, reservoir souring, poor oil-water separation and contaminants such as mercury and arsenic are all examples of production chemistry issues that can threaten the viability of an asset.

Production chemists seek to collect the best possible fluid data during appraisal, use it to identify potential issues, and then ensure these issues are accounted for in reservoir management, facilities design and operating philosophy.

- Asphaltenes
- Corrosion
- Emulsions
- Gas Hydrates
- Microbiology
- Scale
- Waxy Oils

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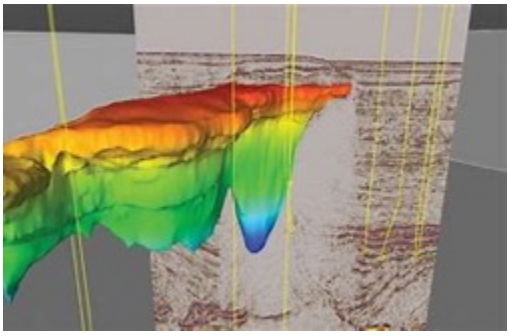
Reservoir Engineering

Syntillica offers expertise in reservoir engineering for review, dynamic modelling, volumetric assessment and field development planning.



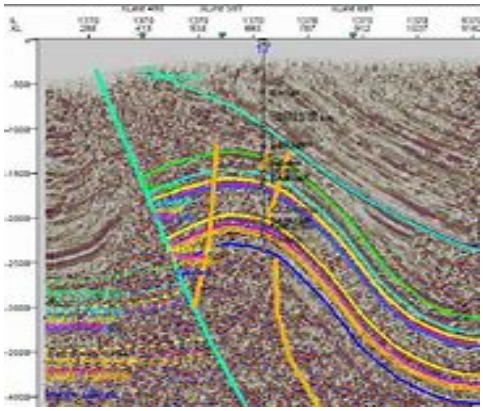
Reservoir Engineering is where the exploration and appraisal data is built into dynamic modelling analysis to include both fluid and formation information. The importance of calculating the recovery factor and technically recoverable volumes from a field are paramount to both field development planning and investors alike.

Syntillica can provide detailed dynamic modelling and history matching to forecast future production volumes. Reservoir sweet spot locations and well trajectories for development plans can be planned from dynamic models to maximise the chance of success when drilled.

- Drill Point Planning
- Fluid Characterization
- History Matching
- Reservoir Drivers
- Recovery Factors
- Reservoir Flood Simulation
- Reservoir Simulation
- Well Test Analysis

Seismic

Syntillica has the expertise to offer end-to-end consulting support in the areas of seismic survey tendering, design, acquisition and processing services. Seismic acquisition has been the mainstay of exploration and field development for decades.



In that time the technology underlying both acquisition and processing has increased enormously in a highly competitive market. To make the most suitable choices for seismic from a cost benefit viewpoint is no easy matter.

We take an independent and rigorous view of contractor performance to provide assessment and advice on tendering and selection. We also have the technical expertise to offer survey design, acquisition and processing QC services to guide you on the path from concept to geophysical interpretation, quantitative analysis and more.

Syntillica also offers Site Investigation services: Geo-Hazard or Shallow Hazard Assessment. Integration of specialist geophysical interpretation, geotechnical, geological and environmental information to identify near surface risks to drilling, pipelines, wind farms and rig infrastructure.

- Acquisition Budgeting
- Bespoke Processing Studies
- Data Review and Prognosis
- Feasibility Studies
- Operations Management
- Processing QC
- Survey Design
- Survey Tendering
- Velocity Field Modelling

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Petroleum Geochemistry

Syntillica offers expert petroleum geochemistry services in exploration in regional charge analysis. This incorporates regional source rock evaluation, designing an outcrop field sampling programme, regional maturity modelling and migration mapping analysis, the understanding of the impact of primary and secondary migration on fluid characteristics, petroleum systems charge analysis, the understanding of petroleum type and physical properties, best practices for the collection and analysis of rock, oil, and gas samples and the interpretation of geochemical data.

On the development side of the production evaluation, Syntillica's petroleum geochemists look at reservoir geochemistry, flow assurance, production allocation and can evaluate produced water chemistry and its impact on understanding production.

- Charge Analysis
- Geochemical Data
- Flow Assurance
- Production Allocation
- Reservoir Geochemistry
- Source Rock Evaluation
- Understanding Petroleum Types
- Geochemical Studies & Programmes

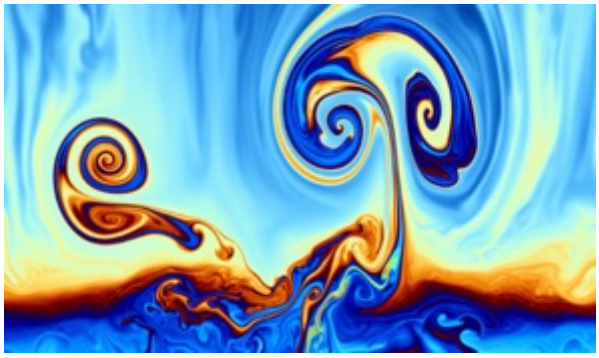
Petroleum Engineering

Maximising production from discovered fields is the primary activity for Petroleum Engineers. Syntillica can offer experienced consultants who have aided increases through different types of pumping and injection to improve recovery factors. In addition, taking into account the commerciality of resources is a key capability for independent evaluation of assets and essential for independent certification.

- Technical Recoverable Volume
- Artificial Lift
- Gas Injection
- Water Injection
- Production Forecasting
- IOR and EOR
- Water Planning
- Polymer Surfactants
- Reserves Evaluation

Production Technology

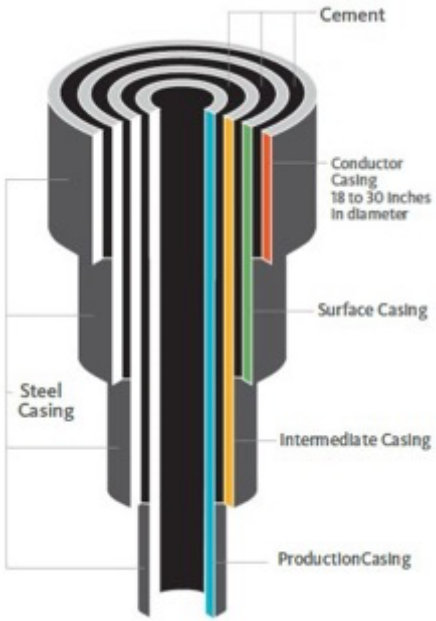
Understanding fluid flow from reservoir to refinery or separtor is integral to optimising production from a field. Syntillica's production technologists can offer expertise across a range of challanging technical fields such as Well Test Analysis (Pressure Transient Analysis) considering productivity issues (e.g. formation damage, skin effects, completion efficiency and reservoir geometry). Furthermore, taking a holistic view on fluid movement using network modelling, flow assurance issues can be identified, understood and mitigated.



- Pressure Transient Analysis
- Network Modelling
- Slugging Analysis
- Artificial Lift Design
- Production Allocation
- Operational Guidelines
- Flow Assurance
- Production Optimization
- EWT & DST

Well Engineering

Well engineering is important to optimse the production of commerical fluids from reservoir formations at the same time as restricting flow from non reservoirs (e.g. brines). To provide long-term and safe production well contruction needs to be uniquely designed for each location (e.g. conductor, completions design, casing and cementing). Syntillica can provide the expertise required to build effective wells and put in place both maintenance programs and interventions if necessary.



- Well Construction
- Well Test Planning
- Contract Management
- Well Design
- Well Maintenance
- Abandonment
- Completions Studies
- Well Intervention

Drilling

Syntillica has acess to a top quality group of drilling consultants with global experience. With hands-on experience combined with management insight they are very well placed to provide support on any aspect of drilling projects. Key aspects of any drilling project are cost, safety and time. To optimise all three wells are planned and designed in detail including multiple stakeholders (e.g. subsurface and HSSE). After planning has been completed, both contractor management and operational support can be provided. Syntillica's consultants can also provide expert and bespoke training, passing on essential knowledge and lessons learned.

- Well Planning
- Contract Management
- Operational Support
- Risk Assessment
- Drilling Designs
- Drilling Management
- Well Auditing
- Bespoke Training

Facilities

Facilities engineering plays a primary role in field production. Studies including Design, Feasibility and Concept work (both appraisal and selection) can be provided. In addition, Syntillica's consultants have the experience, data and expertise to provide accurate cost inputs for economic forecasting, vital for commercial assessment.

- Expert Studies
- Cost Estimates

Contact Syntillica

For more information on how we can support your business please visit www.syntillica.com, contact enquiries@syntillica.com or call +44(0)20 8154 3918.

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