

# UNLOCKING THE FUTURE OF CARIBBEAN OFFSHORE ENERGY:

Driving Digital Transformation in the  
Guyana-Suriname Basin





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# Summary

The Caribbean offshore oil and gas sector is at a pivotal moment. Following a decade of landmark discoveries, particularly in Guyana and Suriname, global operators are scaling-up production. However, the region’s ability to support these deepwater developments hinges on critical infrastructure, in particular high-capacity, secure offshore connectivity and digital services.

In this paper we explore the global drivers reshaping offshore energy, benchmarking the opportunities of the Guyana-Suriname Basin to other frontier deepwater markets that have implemented robust strategies and succeeded. We review Digicel Business’s subsea fibre cable, DeepBlue and how the Caribbean is uniquely positioned to support this industry by identifying digitalisation strategies to enhance operational resilience, regulatory compliance, and local content participation. The impact goes beyond revenue, it represents a unique point that can redefine national development, including but not limited to digital infrastructure, enhanced public services and expanded private sector growth.

## Global Market Overview

As the global oil and gas Industry navigates energy transition pressures, deepwater production remains a critical pillar for energy security, especially in emerging markets. According to Rystad Energy, offshore production will account for 30% of global crude oil supply by 2030. It is estimated that the offshore sector will be the source, that will drive the growth in oil production for the rest of the decade.

Following a volatile period shaped by the pandemic, supply chain disruptions and geopolitical shocks including the Ukraine-Russia war, the global oil and gas sector has rebounded, driven by increased energy demand and adjustments to global supply routes. Across the globe there has been rapid expansion of subsea infrastructure, digital control systems, and offshore cloud services to support these operations. The Caribbean must adopt a similar model to unlock long-term offshore value.

### Investment is needed in:



**High capacity fibre and satellite hybrid networks**



**Real-time operational data transfer**



**Edge computing at offshore installations**



**Cybersecurity for critical national infrastructure**



# Guyana-Suriname Basin Outlook

## A New Global Offshore Frontier

The Guyana-Suriname Basin has rapidly become one of the most exciting exploration and production sites globally, with Guyana’s estimated recoverable resources having surpassed 11 billion barrels of oil equivalent (boe) in the Stabroek Block. Production is already underway and expanding rapidly. The region is widely viewed as a deepwater hotspot with geological prospects rivaling West Africa.



### KEY HIGHLIGHTS

Country	Key Operators	Estimated Reserves	Production Outlook
Guyana	ExxonMobile, Hess, CNOOC, PetroChina	11 billion barrels	1.2 million barrels per day
Suriname	TotalEnergies, APA, Petronas, Staatsolie, PetroChina	~2 billion barrels	First oil by 2028

### Trinidad and Tobago’s Strategic Role:

As the most mature oil and gas hub in the Caribbean, Trinidad continues to play a critical role in the region’s energy ecosystem. This market is unique, in and of itself, being the largest exporter of Liquefied Natural Gas (LNG) in the Western Hemisphere. To put that in context, Trinidad exported over \$12 billion USD in 2022.

Trinidad & Tobago has a well-established oilfield services industry, with both local and international companies operating in the country. The industry has been active here for over a century, and this coupled with its deepwater-port infrastructure allow it to serve as a key hub for both import and export activities related to energy production and related industries. This places Trinidad & Tobago as a key strategic partner for the Guyana-Suriname Basin, with key regional contractors and logistics services playing a central role in business continuity and disaster recovery strategies within the region.





# Guyana-Suriname Basin Outlook

## A New Global Offshore Frontier

### Driving Factors For Success of Guyana-Suriname Basin:

- Exceptional deepwater geology, with consistent high-yield finds
- Favourable regulatory processes encouraging foreign direct investment
- Availability of dedicated subsea infrastructure like DeepBlue providing ultra-reliable, low-latency connectivity essential for modern offshore operations, extensive onshore connectivity and ICT infrastructure, to further support offshore efforts.
- Growing local content requirements, workforce training, and digital services demand.

### Operational Challenges In The Region:

Despite its promise, the region presents unique operational risks:

- Remote deepwater operations with complex logistics requirements
- Increased exposure to cybersecurity threats targeting critical infrastructure
- Regulatory complexities including local content requirements (it is mandated in the region for the hiring of local personnel, procuring goods and services from local businesses, and investing in workforce development and infrastructure)
- Risk of adverse climate and flooding disrupting supply chains





# Economic Outlook For Guyana & Suriname



In 2022, Guyana's GDP grew by 62.3%, the highest real GDP growth in the world that year, according to the International Monetary Fund



The Guyanese economy has tripled in size. GDP per capital increased from one of the lowest in the Latin America and Caribbean (LAC) region in the early nineties to US\$18,342 in 2022



Guyana's commercially recoverable petroleum reserves (over 11 billion barrels and expected to last 40 years) are one of the highest per capita levels in the world.



IMF forecasts indicate GDP per capita in Suriname could grow by 20% annually post-2028



Projected revenue from offshore projects in Suriname: US\$16–26 billion over the project lifecycle



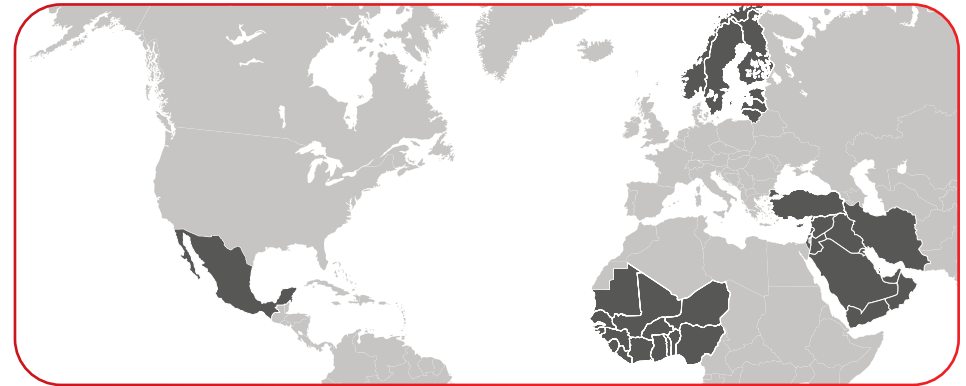
Annual royalties for Suriname from Block 58 alone may exceed US\$200 million



# Global Case Study:

## Digitalising Deepwater Energy Operations: Global Insights for the Caribbean

Around the world, the most advanced offshore energy-producing regions from the Gulf of Mexico and the North Sea, to the Middle East and West Africa, have undergone remarkable digital transformations. Despite differing geographies and regulatory landscapes, these regions faced similar challenges from remote offshore production sites to harsh marine conditions, cyber vulnerabilities, and limited early-stage digital infrastructure.



### KEY GLOBAL TRENDS:



#### Increased Upstream Investment:

According to S&P Global Commodity Insights, global upstream oil and gas investment is projected to exceed USD\$600 Billion in 2025, led by offshore deepwater projects.



#### Decarbonisation Pressure:

Even with increased demand, operators must balance output with carbon management, improved operational transparency, and digital compliance monitoring.



#### Digitalisation & Automation:

Operators are accelerating investment in remote asset management, predictive maintenance, and cybersecurity infrastructure to increase operational efficiency and reduce downtime.



#### Energy Security & Diversification:

European and Asian markets are seeking reliable suppliers outside their traditional supply base from Russia, creating opportunity for new emerging producers.



# Global Case Study:

## Digitalising Deepwater Energy Operations: Global Insights for the Caribbean

To overcome these, a number of commonalities emerged including strategic investment in digital technologies and integrated communications infrastructure. Global operators adopted private LTE/5G networks, edge computing, and hybrid connectivity models (including VSAT, LEO satellite, and subsea fibre) to create resilient, high-speed data environments. This enabled real-time production monitoring, remote operations, predictive maintenance, and enhanced safety protocols across offshore fields.

Cloud and edge computing platforms became instrumental in reducing latency and enabling local processing of mission-critical systems on FPSOs and rigs. These systems were then securely synced with global data centres for seamless operations and decision-making. At the same time, robust cybersecurity frameworks were embedded at the infrastructure level, often through dedicated SOCs, to safeguard operational technologies and ensure compliance with international standards.

Crucially, all regions recognised the importance of building digital capability from the ground up. Operators partnered with local institutions and telecom providers to train a skilled workforce, ensuring long-term sustainability and national participation in the energy ecosystem.





# Global Case Study:

## A Future-Ready Caribbean

The Guyana–Suriname Basin now stands at the threshold of similar growth, but with the unique advantage of building on these global lessons from the start. With the launch of DeepBlue, the region is equipped with a modern subsea fibre backbone that eliminates many of the legacy infrastructure challenges others had to overcome. This positions the Caribbean to leapfrog into a digitally enabled offshore energy ecosystem from day one - secure, connected, and globally competitive.

### Applying The Four Pillar Framework To The Caribbean:



#### Dedicated Subsea Fibre:

With DeepBlue infrastructure in place in the production sites, operators in the region have a fibre network already in place offering low-latency, high bandwidth communications essential for real-time monitoring, data transfer, and remote collaboration.



#### Cloud and Edge Computing:

The presence of stable, high-speed connectivity enables cloud-based and edge-computing solutions to be deployed on FPSOs and rigs. This supports predictive maintenance, automation, and real-time decision-making in harsh environments.



#### Cybersecurity, Monitoring and Control:

Direct fibre access makes it easier to establish always-on cybersecurity monitoring and control. Caribbean operators can implement advanced threat detection, endpoint protection, and secure infrastructure management from day one.



#### Local Skills and Workforce Enablement:

As digital tools are adopted, workforce development becomes crucial. The Caribbean can focus on digital skills training for local engineers and technicians to assist with adapting to new industry growth.



# Digital Infrastructure:

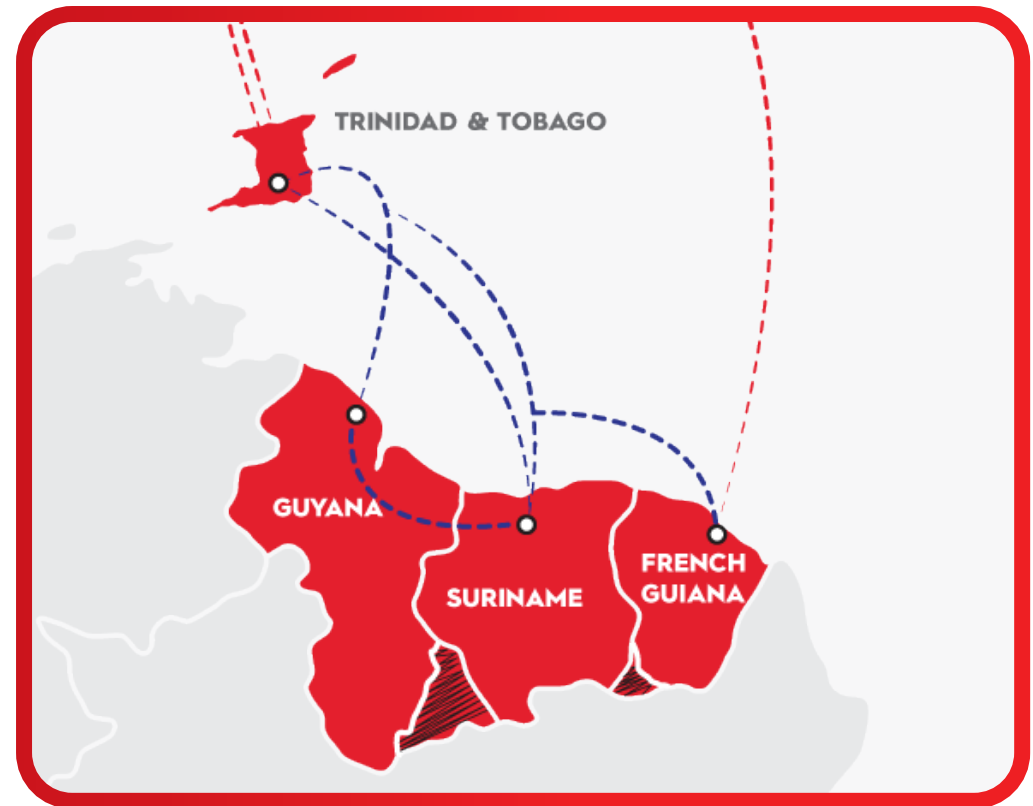
## The DeepBlue Advantage



Digicel’s advanced fibre cable network will provide seamless connectivity to the countries it serves, facilitating uninterrupted communication and real-time data transmission. DeepBlue brings an invaluable opportunity as it is present in production sites, allowing for multiple branching units to provide direct umbilical connectivity to offshore assets. This supports the growing energy sector in the region and fosters collaboration among key stakeholders in the oil and gas industry,

DeepBlue’s redundant pathways and cutting-edge technology ensures reliability, optimal operational efficiency and minimal downtime even in challenging environments. Leveraging the latest technology, this subsea cable network is also designed to accommodate future growth and evolving technological requirements, offering scalability and flexibility to meet industry demands. Additionally, as part of Digicel’s commitment to minimising environmental impact, the build out of DeepBlue prioritised sustainable practices, while supporting the transition towards a greener future.

In addition to connectivity, DeepBlue will bring a full economic ecosystem for the benefit of all. The link between increased connectivity and improved economic outcomes has long been proven, with the International Telecommunications Union (ITU) reporting that a 10% increase in fixed broadband penetration can result in up to 2.3% increase in GDP per capita, while a 10% increase in mobile broadband penetration can result in up to 2.8% increase in GDP per capita.





# Connectivity At Sea:

## Closing The Offshore-to-Onshore Gap

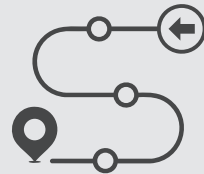
The deployment of DeepBlue is a gamechanger across the region. Digicel Business, through DeepBlue and its secure regional data centre network, is uniquely positioned to support this transition, enabling Caribbean offshore operators to leverage global best practices while ensuring regional sovereignty and compliance.

- DeepBlue is present in the production areas offshore minimising investment and operating costs
- Private 5G offshore network around FPSO clusters
- Adoption of LEO (Low Earth Orbit) satellite services for low latency connectivity to remote fields
- Managed cybersecurity services and SOC partnerships within the region
- Workforce development programmes aligned to local content requirements

### Digicel Business bridges this gap by:



Providing enterprise-grade, dedicated fibre connectivity from shore bases and national operation centres (NOCs) to regional landing stations.



Offering redundant and resilient routing options via **DeepBlue** for business continuity



Partnering on offshore connectivity solutions and managing the seamless integration of offshore-to-onshore data, voice, and operational systems.



Delivering real-time NOC monitoring, cybersecurity services, and cloud hosting from within the Caribbean, ensuring compliance with regional data sovereignty regulations and local content mandates.



# Digital Solutions For Energy Operators:

Digicel Business offers a tailored portfolio addressing sector-specific demands:



Private 5G offshore networks and Private APNs onshore, combined with enterprise mobile networks for secure offshore crew communications



Support IoT and real-time asset monitoring for operational oversight and predictive maintenance



Managed cybersecurity and compliance services



Unified communications platforms connecting onshore, offshore, and remote teams with intrinsically safe devices



Cloud hosting and DRaaS ensuring data sovereignty and operational continuity

The Guyana-Suriname Basin represents the region's greatest economic opportunity in decades. As production increases, operators will need partners that understand operational, regulatory, and infrastructure nuances of the Caribbean energy market.





# Conclusion

## Unlocking the Caribbean's Offshore Energy Potential

The Guyana-Suriname basin stands at a pivotal point in its energy evolution, with the opportunity to become one of the most significant deepwater oil and gas regions globally. The Caribbean is uniquely positioned to leapfrog infrastructure limitations and adopt a digitally enabled, future-ready model for offshore operations.

With the launch of DeepBlue, Digicel Business has significantly enhanced the region's subsea fibre capacity, delivering direct, high-bandwidth connectivity to production zones in Guyana, Suriname, Trinidad & Tobago, and French Guiana. This investment eliminates the connectivity barriers that once hindered operational efficiency and digital transformation in comparable markets.

By building on the four pillar model which proved successful, the Caribbean can accelerate sustainable energy production and strengthen its regional resilience.

Digicel Business is uniquely positioned to partner with operators, governments, and stakeholders across the value chain to:

- Enable real-time decision-making and remote asset management through cloud-enabled offshore rigs.
- Protect national infrastructure and operator systems through 24/7 managed cybersecurity operations.
- Support capacity-building and local talent pipelines through digital upskilling programs.

Together, these capabilities offer a strategic pathway for safe, efficient, and future-proof development in the Caribbean's offshore energy frontier.



# Let's Build The Future Of Oil & Gas Together



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