



Contract and partnership management at NOCs

Adopting new types of contracts and partnership models sets fresh challenges for national oil companies

Content

Executive summary	3
1. New ways of partnerships	4
2. Partnership evolution	6
3. Examples of partnership evolution	7
4. Elements of a successful contract implementation	8

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Executive summary

The increasing need for new and creative types of partnerships between national oil companies (NOCs) and other operators and service companies has created a difficult task for their management. The implementation of these contracts is almost always a complex and substantial challenge, and usually requires a radically new corporate culture – possibly together with restructuring and enhanced systems.

- Executing new types of business ventures with IOCs has a growing number of NOCs struggling to adapt to the challenges of highly competitive environments.
- A fresh set of capabilities is required to run the new alliances at the speed expected by incoming partners and market forces.
- Selecting the ideal type of contract for each venture is key: each has different levels of complexity and, hence, demands distinctive patterns of organizational capabilities for their successful execution.
- Efficient governance, transparency, processes and competencies will determine success in reaching NOCs' objectives.
- Contracting with IOCs provides NOCs with a window of opportunity for true cultural change; better practices to implement the new contracts may become a fast lane for deeper transformation.

1. New ways of partnerships

The oil and gas sector has seen several paradigm shifts over recent decades, as resource-rich countries have built confidence in their own capabilities to extract hydrocarbons economically and sustainably. However, a common theme throughout the stages of oil and gas exploitation is that NOCs are increasingly well positioned to ensure their survival, given their regulatory regimes, which typically favor local resource ownership. It is estimated that NOCs have invested between 100 and 200 billion USD to increase the productivity of their abundant reserves.

In fact, NOCs and independents will account for 60 percent of capital investments for the next five to 10 years, increasing their collective investment from \$250 billion in 2018 to \$420 billion by 2025. (Refer to Figure 1.) Global oil-demand levels will be maintained above 100 million barrels per day by 2040, with petrochemicals the largest source of growth, closely followed by rising consumption for trucks, aviation and shipping.

In addition to the significant investment requirements needed to maintain such production levels, these resource-rich countries have now reached a turning point in their maturity, at which we

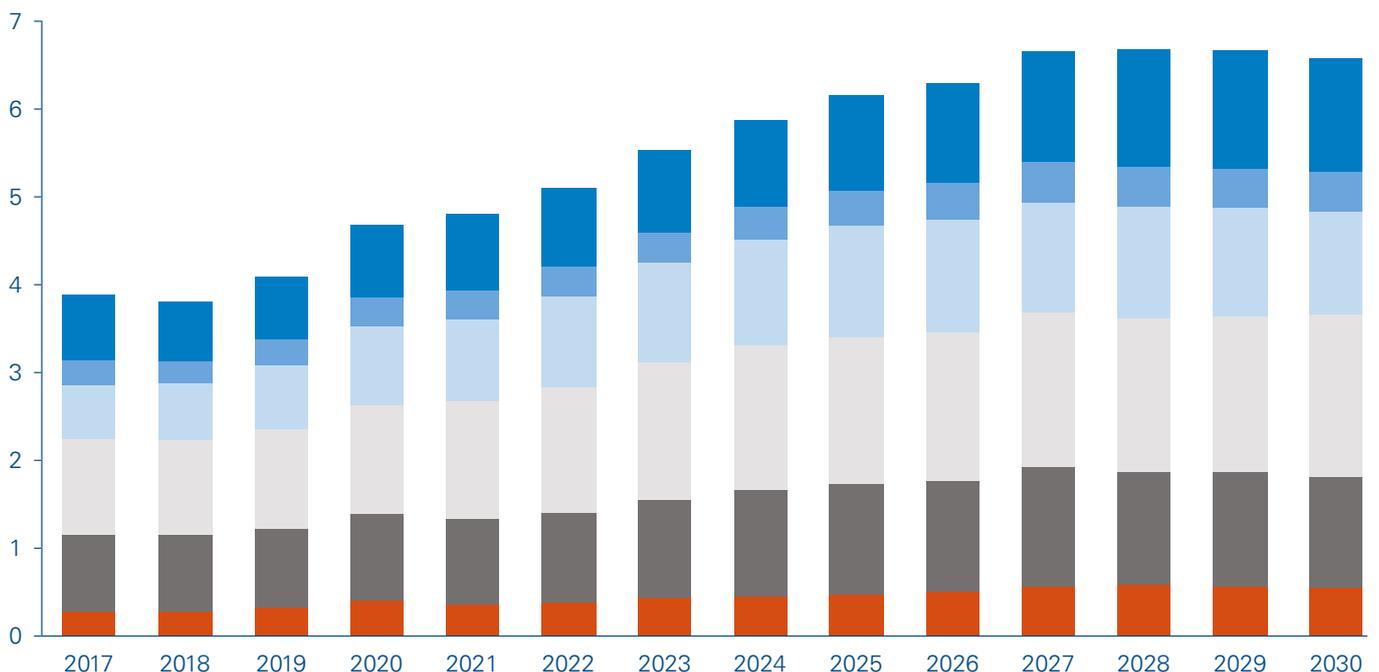
have witnessed many NOCs struggling to maintain the field development efficiencies they had enjoyed until recently.

NOCs now often feel compelled to seek new types of business contracts to generate value and increase executional efficiencies. Domestic pressure to ensure sustainability and self-reliance in the long term have pushed for these contracts to include extensive knowledge-transfer features, usually through building both staff capabilities and technology sharing. As a result, understanding the benefits for international oil companies (IOCs) or service providers within these contract options is critical to assessing the importance of fostering “win-win” situations.

Executing new types of business ventures with both efficiency and success has resulted in a growing number of NOCs struggling to adapt to this changed contracting ecosystem, which involves both internal and external stakeholders, often including regulatory bodies. Although this topic is not new within the industry, there is considerable momentum behind the sector’s changing landscape challenging the traditional business

Figure 1: Projected capex investment per type of company, 2017–2030

Capex (\$100 B)



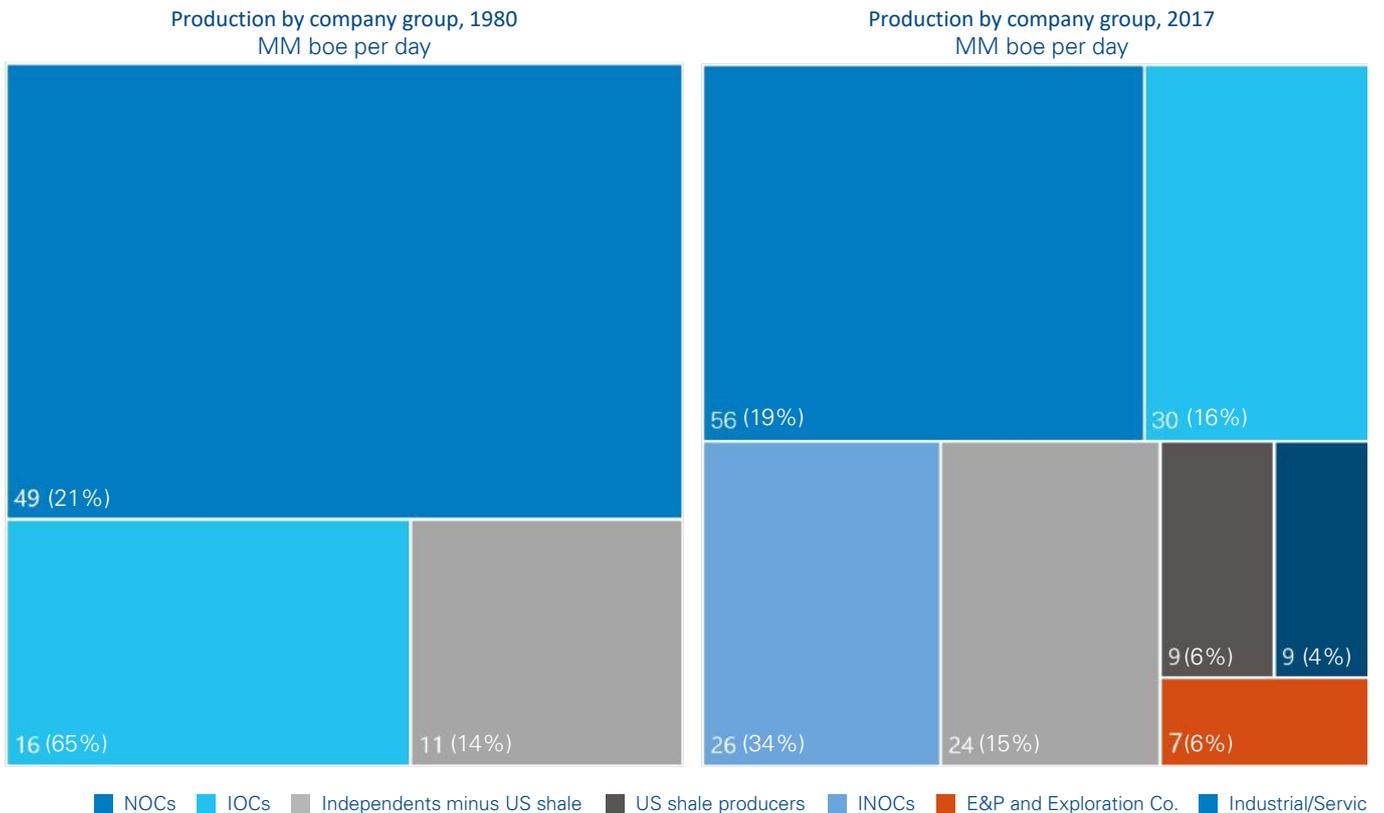
Source: Rystad Energy; Arthur D. Little analysis

Major Integrated Independent NOC INOC E&P compan

mind-set. Today we are witnessing new players entering the sector (refer to Figure 2), whether this involves cross-border diversification, markets opening up to foreign participation, or probing new areas of growth outside the company’s traditional expertise. The key question to answer in this new environment relates to the types of contracts that it is appropriate to consider, as well as their effective execution.

While the contract negotiation process itself is often unfamiliar to NOC teams, its implementation usually brings the heaviest challenge to these companies. Heavy regulation, compliance burdens, and politics typically give NOCs more passive and domestic orientation, as well as hindering their flexibility and response times. A fresh set of organizational capabilities is therefore required to run the new alliances at the speed expected by incoming partners and market forces.

Figure 2:



Source: Rystad Energy; Arthur D. Little analysis

2. Partnership evolution

IOCs have a long history of forming partnerships, a skill usually embedded in their cultures. While some IOC capabilities are sometimes regarded as role models, NOCs should not attempt to copy these models when executing contracts, but develop their own styles of contract management – styles that acknowledge their restrictions and play to their strengths.

Historically, the relationship between NOCs and IOCs has been one-sided dependence. This has gradually evolved, in mature cases, to mutual interdependence between IOCs and NOCs. Still, the need for better understanding of how to foster a strong alliance or partnership is a struggle for many to develop and effectively execute.

Our experience confirms what is often commented upon – that there is no single, perfect partnership model for NOCs, but that every model has its own merits and demerits. However, the partnership operating models for individual NOCs tend to evolve over time and, going forward, we foresee an increase in NOC-

IOC alliances and collaboration in the wake of the prolonged low oil price and the “difficult oil” of oil and gas companies. Partnership agreements between IOCs and NOCs can vary in terms of both the level of collaboration and the share of the investment.

Two key examples of partnership evolution are described below, to illustrate the complexity of partnership models and contracting mechanisms.

1. Iran: strict oil law to safeguard the resource ownership, while improving service contracting mechanisms to attract much-needed foreign investments in the struggles of the oil and gas sector due to decades of sanctions and embargos.
2. Mexico: successful reform from service-based contracts to independent field development, segmenting bids into specialization and tailoring contracting terms to suit the complexity of the scope.

3. Examples of partnership evolution

The case of Iran

For decades prior to the formation of the national oil company, Iran's oil and gas fields were developed by IOCs. During these periods, the local community had seen limited sustainability for the economy as well as for technological and capability transfers. Through the nationalization era, many countries, including Iran, took back control of their oil and gas developments. While production was maintained post nationalization, the imposed sanctions and embargo led to a production decline and years of struggle. To assist with developing its fields, Iran implemented a buy-back contract adopted from the long-term service contract of Iraq. The buy-back contract, which safe-guarded the resources of the country, posed many economic challenges to foreign companies willing to develop the oil and gas fields. With limited access to funding, technology, and capabilities, Iran was required to revisit the buy-back contract mechanisms.

Through a series of attempts, the Iran Petroleum Contract (IPC) was implemented in 2016. Although still a service contract (constrained by the current Iranian Oil Law), the IPC has significant improvements on the buy-back contract, namely, the extension of the field life (from five to 20 years) that the foreign company can hold onto. This extended duration translated to a more favorable economic pay-back for the foreign company, while ensuring a longer period to transfer technology, capability development, and local content improvements. We have witnessed a revival of the oil and gas sector, given the key changes to the terms and the recent lifting of many of the sanctions, although the political instability within the region continues and may pose further challenges.

In summary, due to the need for foreign investments and improved technology, Iran embarked on redesigning its petroleum contracting mechanism. To this extent, the relatively successful implementation of the IPC has captured much interest from international companies in Europe and Asia. The indirect impact of such changes to the ecosystem is favorable, in that vendors, suppliers and local infrastructure have been resurrected. However, even though the sector is somewhat revived with renewed interest from a global perspective, the Iranian oil and gas sector will need to quickly modify the sector governance and manage the influx of new partnerships.

The case of Mexico

The second case illustrates Mexico's recent oil and gas reform. After more than seven decades of absolute state control over the oil industry, the need for investment to sustain the fiscal revenue from hydrocarbon extraction forced the energy reform of 2013–2014, as Mexico required cash and expertise to explore its deep waters, tap its unconventional resources, and develop its heavy oil fields in shallow waters. Each execution challenge required a different type of agreement to allow the country's NOC, Pemex, to fill the void where capabilities were thin.

The Mexican oil sector began its opening through a "pre-reform" in 2008, initially allowing Pemex contracts to embed some incentives for its service providers. In addition, the organizational culture at Pemex traditionally saw private players as mere service providers offering few long-term synergies. The first incentivized contracts required heavy investment, yet offered disappointing results, which added further mistrust in the viability of partnerships. Fortunately, this failure did not stop the reforms, and a few independents entered Mexico through PSC and license operating models. In 2016, Pemex finally formed its first joint venture as a non-operator. Some of the initial key challenges within Pemex to adapt to partnerships were a deep distrust of external agents, heavy internal regulation, siloed divisions, and resistance to change from several stakeholders.

These first contracts have allowed Pemex to develop basic execution capabilities and gain recognition as a trustable partner after a year acting as a non-operator in two local deepwater projects with majors and independents, as well as dedicating significant efforts to implement the required processes and governance to run its joint operating agreements. Although there have been challenges to the implementation arising from its internal overregulation and resistance to change in some areas, Pemex has continued its opening and recently embarked on partnerships as a full operator with Ecopetrol, Cepsa and Deutsche Erdoel.

4. Elements of a successful contract implementation

The above-mentioned cases of Iran and Mexico reveal that regulatory policies have significant impact on the types of partnership models possible in each country. Such policies include fiscal regime and local content. This will, therefore, require the regulatory bodies to be properly established for the varying partnership options and policies implemented.

As the global sector matures and its regulatory regime changes, the partnership model will inevitably evolve. A positive evolution will result in NOCs, IOCs, and service providers mutually benefiting from the collaboration, creating sustainable value to their respective countries and people. Depending on many factors, such as cultural, government risk appetite, and favorable economic returns, the evolution period will vary and take decades of careful planning and execution at all levels.

The next question to arise from NOCs' perspective is about the necessary set-up to ensure a successful partnership model. From long-term supply contracts for refineries to joint operating agreements in new block development, NOCs have started to expand their webs of business relations to leverage their strengths and fulfill their mandates to create value for their respective nations. Each type of contract has different levels of complexity and, hence, demands distinctive patterns of organizational capabilities for their successful execution.

Successful contract implementation requires execution capabilities defined by a set of organizational strengths, including governance structures, organizational design, organizational culture and managerial competencies.

Key success factors for contract implementation

1. Governance structures and decision-making: Improved definition of roles and responsibilities, including governance structures and decision-making mechanisms. Better practices will also leverage NOCs' positions in their local markets and improve their reputations.
2. Organizational design: An innovative design that may include incorporating a specific team/department to overlook the development of partnership operating model standards and performance guidelines.
3. Organizational culture: An environment that fosters innovation, accountability and transparency brings a transformational effect to the organization. It is often required to handle the complexity of today's stakeholders and other members of society that pay more attention to NOCs' contributions to national value.
4. Competencies: Many local management units at NOCs never required complex business skills before. Better management practices to implement the new contracts may even become a fast lane that can spur deeper transformation at NOCs.

Efficient governance

Too often, the failure of a new partnership contract can be traced back to failure to set up a strong governance structure and mechanisms for agile decision-making. The concept of "governance" has become more prevalent in literature related to sustainable development. The "resource curse," which has blighted many developing countries, is a malaise for which good governance is often prescribed as a core remedy. Significant empirical evidence shows that hydrocarbon-rich countries often grow more slowly than resource-poor countries do – these are resource rich, but economically poor.

The need for efficient, transparent governance is a step towards ensuring a healthy influx of quality partnerships, which, in turn, will develop the necessary capabilities for the developing resource-rich nation. Good governance is often a combination of the following elements:

- **Transparency:** From policies to licensing to taxation, transparency from regulatory entities is required. This will ensure a fair system for local and foreign stakeholders.
- **Clear roles and responsibilities:** Delineation among the key stakeholders (regulatory bodies, NOCs, local private players, and international companies) will ensure minimum overlap

in duties. Importantly, this will help strengthen the sector structure, with focus on policies versus operations.

- **Supportive fiscal regime:** A well-defined fiscal regime should support the sector in reinvesting in capabilities, technologies, and social welfare. The regime will also need to be attractive enough to ensure both local and international players gain opportunities to optimize the sector’s reservoir management.
- **Economic and environmental sustainability:** Most countries announce visionary plans (Vision 2030, Five-Year Plan, etc.). These plans lay the foundation for socio-economic and environmental sustainability. Achieving these sustainability plans will ensure a prolonged prospect for the community by allowing them to rely less on oil money (economic diversification).

Organizational design

New types of contracts appear because of energy reforms. Hence, NOCs typically face multiple objectives, from the most obvious, such as generating value and developing execution capabilities in frontier challenges, to deeper agendas, such as maximizing national content in the supply chain. These myriad goals give rise to alliance management units at NOCs with several complex tasks to fulfill.

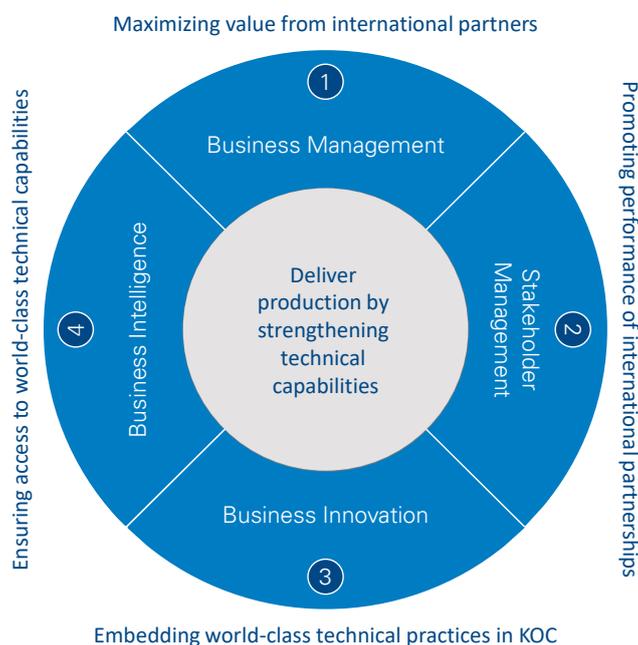
To start, many NOCs lack the dedicated units that specialize in the operation of complex contracts, which both execute contracts and cater to the information and compliance requirements of multiple internal, external and regulatory stakeholders. Each type of contract requires a different set of

execution capabilities and, hence, organizational design is a precise task that must be tailor-made to address both existing capabilities and the requirements of each partnership model.

One option is the establishment of a dedicated, central set-up with strong links to senior management to ensure access to world-class technical capabilities, drive business impact, promote performance and adopt best practices to handle complex contracts. For at least one client, ADL has designed and implemented such a centralized department to manage the new partnerships. In this case, the following were established (refer to Figure 3):

- **Business management:** *Maximizing value from international partners*
 - Ensure aggregate plans are aligned with the organization’s strategic priorities
 - Ensure leadership has visibility of aggregate partnership performance and value
 - Promote commonality and quality across all services
 - Ensure consistency in contract management across partnerships
- **Stakeholder management:** *Promoting performance of international partnerships*
 - Ensure adherence across partnership governance models
 - Maximize utilization of existing partnerships
 - Manage external communications
 - Manage IOC communications

Figure 3:



Source: Arthur D. Little analysis

- Business innovation: *Embedding world-class technical practices*
 - Identify technical best practices and tools, technologies and management systems to build capability
 - Build awareness and a case for change across the client's organization
 - Ensure implementation of best practices across the client's organization
- Business intelligence: Ensuring access to world-class technical capabilities
 - Proactively identify opportunities for new IOC partnerships
 - Assess IOC partner capabilities based on identified client needs
 - Promote the client externally to IOCs and other international partnerships
 - Embed new partnerships into the existing partnership management structure

Working alongside the central department, Arthur D. Little also designed a dedicated team within the asset/region. The objective of establishing this asset-based team was to ensure the partnership objectives and success were monitored on the "ground," and that prompt operational decision-making was enabled.

Dependent on the size of the organization and the partnership complexity (scale and scope of work), the partnership management organizational structure may require varying combinations of centralized and decentralized teams. The decentralized team within the region/asset may specialize in certain functions such as sub-surface development, or be all-inclusive in the operation of the asset (or specific asset), such as that of an EOR development, in which the partnership may be involved with the full scale of operations and technology service provider.

Organizational Culture

One of the main challenges for new contract implementation at NOCs is internal, and includes both cultural and operational aspects. In the traditional organizational setting, operational, strategic and administrative areas are comfortable working in silos, with little or no interaction between them. The execution capabilities required to manage the new types of contracts call for more intense collaboration between areas of the NOC that do not commonly exchange information. As an example, a recent JOA compelled the exploration unit of a Latin American NOC to issue cash calls to its partners in order to fund the joint operations. This requirement forced the unit to develop financial

processes that involved the corporate treasury, accounting and IT departments – areas that would otherwise never have interacted with the geoscientists in the exploration department. As other organizations in this situation are forced to build new synapses, cultural resistance to change, risk aversion and mistrust of external agents usually haunt efficient processes. In addition, sclerotic and complex internal regulations, as well as narrow role descriptions, act as real barriers to organizational flexibility, even in those cases in which cultural resistance is addressed. The process to establish inter-departmental processes is often complicated as traditional organizations typically rely more on personal relations than on positions, so the path to a more institutional framework is slow and hindered by bureaucracy.

Competencies

At most NOCs, organizational culture has remained constant for decades, without significant challenges that require reshaping the structure or the staff's competencies. The implementation of new types of contracts has accelerated the ongoing trend at NOCs to professionalize their management teams. Running new types of ventures means managers must not only understand the business environment of their new, privately owned partners, but also run their operations with much more flexibility and efficiency than before. Skills that were once minor for oil and gas contracts, such as corporate finance, negotiation, leadership, strategic vision and project management, now become relevant as new operations become the new normal. These new managerial competency dictionaries prove to be a challenge to implement, as some human resources departments lack these skills in their training and development models.

These examples show the complexities in the new NOC organization, processes and, ultimately, culture. The benefits would be to ensure knowledge transfer and develop the local content.

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Arthur D. Little

Arthur D. Little has worked with national oil companies on every continent, helping them navigate innovation and change management with strategic, organizational, operational, regulatory and technical topics, including contract implementation.

Thanks to our experience, ADL is the right partner to help both NOCs and their partners in addressing the implementation of multiple types of new contracts, by assisting in the following main areas:

- Organizational design
- Governance and decision-making mechanisms
- New process design and implementation
- Competency models
- Project management office (PMO) for contract management

Arthur D. Little

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Our consultants have strong practical industry experience combined with excellent knowledge of key trends and dynamics. ADL is present in the most important business centers around the world. We are proud to serve most of the Fortune 1000 companies, in addition to other leading firms and public sector organizations.

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