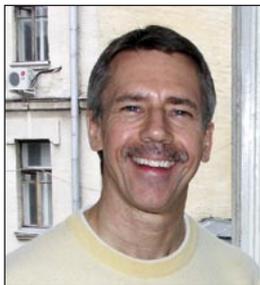


RUSSIA, OIL, TECHNOLOGY & VENTURE CAPITAL: THE GOFORWARD PLAN



In Part I, printed in the Winter edition of the Review, Thomas D. Nastas, President, Innovative Ventures Inc, outlined the current status of Russia technologies for the oil/gas industry and investment opportunities for corporate and financial investors. Here, in Part II, Mr. Nastas presents the GoForward strategy for international oil companies to incorporate Russian innovation into their products and services

The GoForward Plan for corporate & technology investors in the petroleum industry

Real and undeveloped potential exists in Russia and the CIS. Exploiting opportunities requires proactive strategies and investment for the long-term.

Conduct R&D to build the deal pipeline

R&D projects are the prelude to generating future transactions based on new technical solutions and approaches. Investors and corporations might want to contract with institutes and selected enterprises with the skill sets to work on defined problems of customers and users.

Russian institutes and SMEs need direction on emerging trends, where the industry is headed, customer direction and feedback at the early stages of technology development. A clear understanding of problems and potential solutions directs their R&D efforts to the needs for new technology and products. Such direction alerts the attention of developers to opportunities in the petroleum sector.

Commercialisation of new technology starts with R&D and product development projects to demonstrate 'proof of concept' and the value of novel ideas.

Drive innovation into the market: link enabling technologies with platform solutions

Russian institutes and companies operate in innovation spheres that match the petroleum industry's strategic priorities (Figure 1).

Some of these technologies are stand-alone opportunities, while others require western technology and skills as enablers and/or complementors to speed market introduction and customer adoption. Numerous foreign platform technologies can use Russian enabling or complementing technologies to maximise value creation and many of these technologies already exist in joint venture and portfolio companies of western oil companies and their service suppliers. Rather than finance duplicate technologies and/or these skills, opportunities exist to mix and match imported tech-

nology/skills to make Russian and foreign technology more robust.

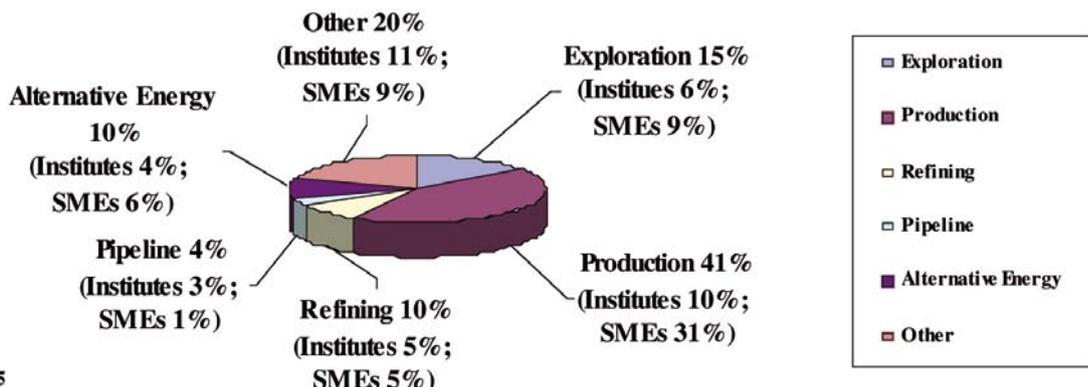
Speed commercialisation: mix & match CIS & foreign technology together

Russian developers are especially strong in specific technology targets of multinational petroleum companies and international service suppliers (Figure 2).

Mixing and matching Russian technology with complementary technology/skills from western companies makes the technology more robust to leverage investments into new revenues, maximising value creation and eliminates much of the Russian risk factor. It's IVI's strategy to invest in, and link Russian solutions with western technologies to build the management expertise in Russian entrepreneurs as the prelude for the successful ones to 'graduate' and raise venture capital. As an example, risk, cost and time-to-market is less by integrating the Russian distributed pressure/temperature system with the technology one of our corporate

Figure 1

Opportunities & Strengths by Technology



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partner's investee companies to create the total solution. Linking these two companies speeds commercialisation since the foreign SME has the international sales, distribution and service networks for global marketing.

Target Russian value clusters as satisfiers of strategic priorities & unmet needs

Within these targets of technology development, Russians are especially strong in:

1. Software, hardware, sensors and communication products for the sensing, measuring, recording and reporting of information for reservoir identification, characterisation and monitoring.
2. Stimulation techniques.
3. Devices for a variety of complementary needs in hydrocarbon separation.

Upgrade CIS Technology with western solutions for Russian sales; then attack global markets

Moscow (& CIS) offices of international oil companies seek technology solutions for Russia specific applications (eg, cold water ocean environments, arctic conditions, gas reserves in deepwater basins, pack ice, etc.) or price sensitive segments unique to the Russian market.

A number of Russian technologies were developed for Russian buyers where the prices are significantly lower v western solutions, yet these products are just a notch below world class, eg, gas separation technologies from Moscow and Krasnodar companies and a plastic sphere (cold weather) technology from an enterprise located in the city of Vladimir. Opportunities exist to upgrade Russian technologies to western standards to expand their scope on the Russian market and later commercialise them

to global customers, increasing value for international petroleum companies and the supply chain.

Such home grown Russian technologies help multinational companies 'localise' supply content, substitute imports with domestic purchasing to reduce cost and comply with Russian Government requirements for doing business in Russia; increase the number of supply chain relationships with Russian technology and Russian suppliers.

Link global technology activities to the supply chain needs of your Russian operations

Schlumberger is doing this strategy very effectively with two expats backed with a local team scurrying around Russia seeking acquisitions; purchase of assets deepens its presence in Russia and helps it satisfy local supply chain requirements for conducting business in Russia and the CIS. Secondly this team seeks technology for global markets through minority investing and supplier contracting.

Invest locally & internationally

Both create value. The decision of which to do is a function of the deal and the GoForward plan/budget and what is occurring on the political front in Russia.

International corporations doing tech development in Russia are implementing both low & high dollar investment projects; Boeing announced a \$2.5b Russian investment project for their new airliner with a good chunk of the design and development being done with Russian institutes/subcontractors and the sourcing of mission critical components from Russian suppliers (eg, high precision titanium parts).

At the other end of the spectrum are

lower cost (but still in the millions of dollars) knowledge based tech development programmes with the R&D subsidiary residing in Russia to serve the international corporation. Several come to mind; Intel with a large R&D facility in Nizhny Novgorod and their recent purchase of the group that was Sun's SPARC development team/SME, IBM is here as are Cadence, Sun and Motorola to name a few others. Schlumberger is deeply involved and Baker Hughes adopted a 'toe in the water' strategy.

One model that investors are implementing, and one we encourage readers to emulate is the dual location/value-added strategy; R&D in Russia with the corporate entity/headquarters in the US (or Europe).

Funding internationally or locally, R&D in Russia with operations in the USA, etc., is a case-by-case decision, contingent on a host of issues and objectives. For example, several Russian technologies fall in a gap where they fall slightly short of competing against the 'best of the best' for global applications, but where technology is value creative for niche applications as a substitute for high cost imported technology. Strategic investors can finance an investment in Russia, prove its value domestically, and then upgrade the technology for use internationally; a short-term win/win for the local market and a long term win/win for corporate investor in its international operations.

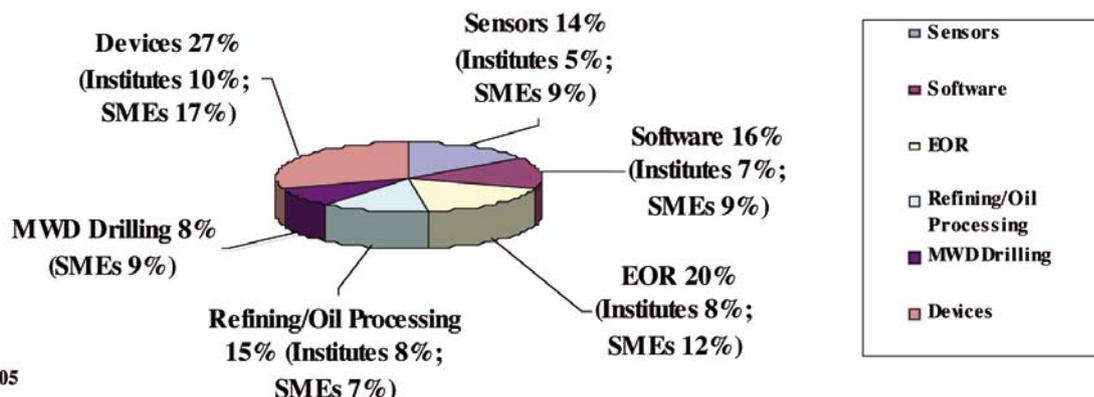
Capital is a partial solution: provide western systems skills to Russian counterparties

Provide institutes and enterprises with proper customer direction and financing in the simple blocking and tackling activities of technology development like end-user guidance to focus design & development to performance, cost and price requirements & comprehensive test



Figure 2

Targets of Technology Development



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ing to international standards. Many technologies that are initially rejected due to poor technology description, lack of test data and information has a 2nd life as viable opportunities with proper guidance from corporate partners.

Deal flow exists now, and deal flow can be developed with financing + western systems delivery & management execution in:

1. Project management & implementation skills
2. Testing & technical service/support
3. Business development, marketing & sales

Most technologies have specific applications where they perform best and create the most value-added, and the Russian side needs to better know the range of oil reservoir characteristics, drilling conditions, weather and location impacts, expertise and technical skills of the customer to realise the value that their technology provides, etc., to pinpoint the best applications for the technology. With such business development help from the western side, investors and partners can better understand the value-added of Russian technology, where it is best used, its prospects for adoption by customers in Russia and abroad, additional development and capital investment required to make the technology market-ready.

Russians are particularly poor in getting technology in the hands of customers for testing when users are not receptive at first, or when they encounter barriers and detours in the marketing and sales process; some give up and quit while others fumble and waste time.

This situation goes back to the Russian culture and the lack of western experience in western practices in marketing and sales. One solution is to persist, continue to contact them, give them opportunities to test the technology (perhaps in limited situations), define their objections and work to overcome those obstacles, minimise or manage them to extract the value-added of the technology.

The virtue of patience

Time and patience is needed to develop the business relationship. The Russian culture is people driven with confidence created through ‘face time’ v the western way of working with a free flow of information (eg, info submitted without a NDA). Trust is established by doing what you say you will do, and following up decisively; while big corporations are notoriously slow in making decisions and taking

action, Russians respect those that implement the small but necessary steps that lead to a final conclusion.

VC & the industry’s GoForward Plan

While the business of venture capital is to invest money, resources and contacts into companies, (local) venture capitalists can help you to reduce risk and improve results in other ways too.

Access into the local market: institutes v SMEs

Institutes under the FSU were the driving force in technology creation and development. Historically in this market, Russian oil companies were (and many still are) vertically integrated with captive suppliers and institutes. It was the Soviet (& Russian) oil companies that deployed the technology with full responsibility (and risk).

Western multinationals operate differently. Your needs are to get solutions from suppliers with them carrying the risk and earning the reward and this is as it should be. Venture capitalists’ objective is to build and finance the suppliers to do this; some supplying directly to the oil major as a 1st tier supplier w/ others as 2nd tier suppliers to the 1st tiers like Halliburton, Schlumberger, etc.

While accessing early stage SMEs in the Russia Federation is a bit daunting given its sprawling size and a general lack of information, it is manageable and possible. 60% of the technologies and opportunities come from CIS companies v institutes, and 70% of short listed solutions come from SMEs v institutes.

SMEs are more transparent, commercial and visible as they promote their developments in the market. It’s IVI’s view that this trend is positive and exactly what is needed to properly align customer and supplier responsibility/risk; to get solutions developed and executed quickly and efficiently into the field v doing institute R&D and then having to work through deployment and service issues.

A focus on SMEs is not meant to diminish the role of institutes, but to properly place them in the role that is best suited for what they do, today, in this market, in the current environment. SMEs accelerate technology deployment for the benefit of all.

Creating the deal; technology ≠ a deal

Technology in and of itself never equals a deal. Conducting the due diligence on the people, confirming the strengths and filling in the gaps with the proper strategy, the right people with

the proper structures to develop and implement the technology with incentives properly aligned is what venture capitalists do.

Maintain the vision: drive the investment to success, liquidity & exit

Big multinationals are poor at developing seed and early stage companies into thriving and profitable companies; that is best left to venture capitalists since our interests (and financial rewards) are aligned with the entrepreneurs and managers of investee companies. Big companies operate differently, with a different culture, different response time to needs and urgencies, and different perspectives to and about ownership.

Venture capitalists make several contributions to the objectives of ‘Big Corporate.’

- building the SME with the technology of strategic interest to the corporate investor;
- putting the structures into place to accomplish;
- raising co-investment money from other investors for development and working capital needs;
- creating the board of directors;
- seeing through technology development into actual products and services for sale to customers and managing the growth process.

Ultimately, this work rewards all as the venture capitalist sells the equity stake in a cross-border M&A to liquefy the investment and return capital back to the investors.

Get to know a local venture capitalist

Russia and the CIS offer international E&P companies a multiple of options in strategy and execution, and the ones you selected are a function of your experience and presence in the region. IVI works to develop the market for technology and venture capital, to invest in new solutions for the industry through more and better suppliers and create supply chain relationships to improve the capabilities of local operating units and boost access into international markets. VC reduces risk and brings efficiencies to the courtship and investment in local technology suppliers. While you may not be ready for entry or investment in the CIS region now, you may be in the future; so please, let’s get acquainted. We have a long-term patient view of the market and know that opportunities regenerate with persistence, dedication and commitment. 