

НОВОСИБИРСК



NOVOSIBIRSK

An old hotel in the capital of Siberia is lit up by lights from a new one.

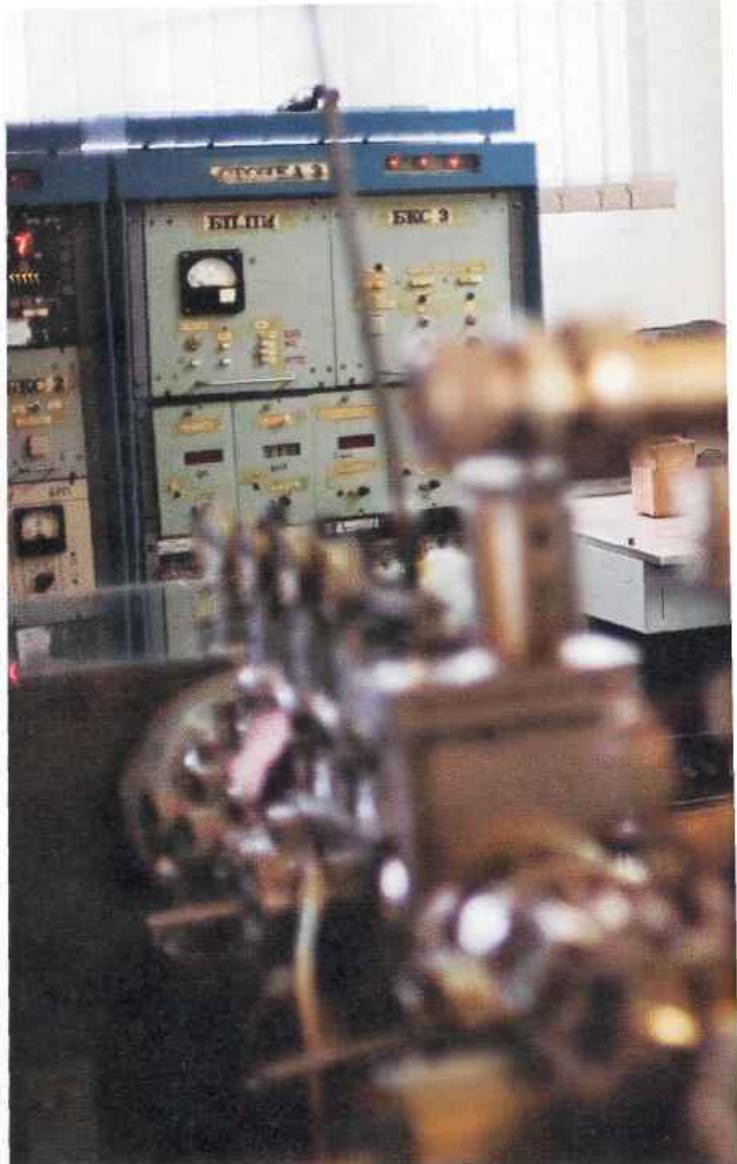
TECH IN A VERY COLD PLACE

A former Soviet science center is a hotbed of software innovation. **BY BRETT FORREST**

TIME PASSES SLOWLY IN NOVOSIBIRSK. IN FRONT OF THE opera house on Red Prospect, skateboard kids skid off the plinth of the Lenin statue, chewing on Afghan *nuswar*, which calibrates the brain to a low buzz. Rusted auto husks and the tilting chimneys of roadside hovels appear to have slouched into poses over many decades. At the boat hotel on the Ob River, the cook does not hurry with the kasha. The capital of Siberia, Russia's third-largest city, Novosibirsk in winter offers few explicit charms.

But travel beyond the slot halls of downtown, past wild dogs patrolling wild weeds, past Tajik road crews in orange jump suits, and a hub of activity rises from the woodland. In this place, where capitalist opportunity has overcome post-Soviet dreariness, time moves at the pace of obtainable dollars.

This is Akademgorodok—Academy Town—where Russian high tech booms. Action in IT, pharmaceuticals, metallurgy, and fossil fuels is making Novosibirsk, tucked away in a remote tract of Russia, a hive of outsourcing. Private high tech in Akademgorodok has expanded from a \$10 million business a decade ago to a \$150 million industry last year, with the number of firms growing at a rate of 15% annually. Akademgorodok won't pass for Silicon Valley. But there is enough upside and



softly priced expertise for Intel, IBM, and Schlumberger to make camp here in what is called the Silicon Forest. Russia's federal government has also taken note, backing the construction of a new \$650 million technology business district. And in a signal of Akademgorodok's broadening reach, a local IT firm is producing a web portal for Oprah Winfrey.

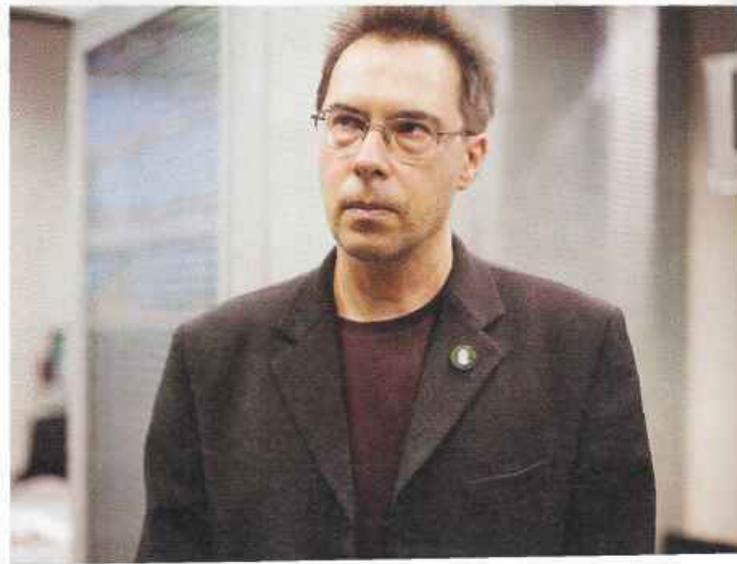
Russian science and technology present an unusual mix of critical thinking, developmental breakthrough, and professional hunger born of the proximity of actual hunger. "Inside Intel we have an expression," says Steve Chase, president of Intel Russia. "If you have something tough, give it to the Americans. If you have something difficult, give it to the Indians. If you have something impossible, give it to the Russians."

THE STORY BEGINS in 1958, when leading figures in the Soviet scientific apparatus secured Nikita Khrushchev's backing to establish a town devoted entirely to pure science. The idea was to collect many of the country's top scientists in a single location deep in the Siberian woods, far from *prying* eyes and metropolitan distractions. By 1963, building crews had completed Akademgorodok, a scholastic and research entity 20 miles outside Novosibirsk. Within a few years, a university had opened, and its graduates were being plugged into the dozens of institutes dedicated to advanced research—a Soviet approximation of Cambridge, Mass.

In much of the world, moving to Siberia wouldn't be regarded as an especially brainy plan of attack. But that is just what many of the Soviet Union's greatest scientific minds decided to do, and to a large extent willingly, lured by the promise of new housing and professional advancement. For 30 years, Novosibirsk was one of the smartest cities in the imperium, a collective of academics who put their minds to everything from nuclear physics to theoretical genetics, from the space program to the weapons aimed at the great American evil.

And then the bottom dropped out.

When the Soviet state collapsed in 1991, the scientific community crumbled along with it. The salaries and status allotted to accomplished scientists vanished, as did a system geared toward nourishing young talent. Novosibirsk's Akademgoro-





dok was left with thousands of scientists, a bruised mission, little money, and an overwhelming anxiety.

A walk through the Novosibirsk Institute of Automation and Electrometry is all it takes to see the neglect. Electrical wires hang from the ceiling like stray hairs across a tired forehead. Paint flakes from the walls; lights in the passageways flicker from dim to dark. For an institution that once sparred with the math department of MIT, the place could use a pick-me-up.

But when Mikhail Lavrentyev, a Siberian mathematician of lofty provenance, opens the door to a research lab, he reveals what is saving Akademgorodok from sliding into irreversible institutional decrepitude: one very spherical man and another with severely crossed eyes hunched over computer terminals. These

CAPITALIZING ON THE PAST A programmer at Screen Photo Electronic Instruments (above), one of dozens of new startups. Opposite: Mikhail Lavrentyev, grandson of an Akademgorodok founder.

two doctoral students are writing code for Intel.

Lavrentyev's grandfather, also Mikhail, was

the prime mover in creating Akademgorodok. It was while working in the closed nuclear research town of Sarov that the elder Lavrentyev came upon the idea of creating an entirely new science town. It has been his grandson's fortune to oversee Akademgorodok's repurposing. "Akademgorodok was a new idea, multidisciplinary, to give young scientists a real chance to develop ideas," Lavrentyev says. "But salaries in the '90s went south, and it became a problem for the academy. There became a clear choice when you finished your degree. Go to science, or go to business and immediately you have a reasonable salary."

So began the great hustle, as the pure scientists of Akademgoro-



dok had to find a way to survive, commodifying and commercializing the high-tech expertise that once served the state. Many young scientists gravitated toward IT. Every year, Russia graduates as many scientific and technology specialists as India—200,000—although Russia is 80% smaller by population. Russia's software exports now exceed \$1.8 billion annually, and the country is the third-largest software outsourcing destination in the world, after China and India. "In these other countries, there was no technological culture like we had in Soviet times," says Dmitry Milovantsev, Russia's deputy minister of information technology and communication, hinting at the country's potential.

A company called Novosoft launched Novosibirsk's IT wave in 1992, growing to 500 employees and eventually partnering with IBM. Novosoft splintered in the Internet bubble, the effects of which registered even in Siberia, although the firm maintains a significant presence. Other companies have made considerable strides since then, most notably SW Soft, an IT infrastructure company specializing in server software. Today, SW Soft has more than 10,000 international customers and has received funding from Insight Venture Partners and Intel Capital.

Large multinationals are also taking advantage of the changing climate. Intel opened an Akademgorodok office in 2004 and now employs 200 programmers who optimize microprocessors. IBM arrived first to the market in 2000, while Schlumberger has taken the lead in local investment, having purchased a plot of land on which it is building an R&D lab.

The low cost of rent, services, and salaries—roughly one-fifth of Western prices—appeals, but so does the manner in which the system molds its wards. "None of our programmers in Novosibirsk are programmers by education," says Intel's Chase. "They are physicists, chemists, biologists, mathematicians. They are first of all scientists. Secondly, they learn how to program, as an afterthought. This combination is extremely powerful."

IT offices are springing up on Akademgorodok's leafy lanes as well as in its industrial back alleys. The work has been easy to come by, and with good reason, for words such as "loans," "grants," and "investments" haven't a place in the local lexicon. "We're kind of spoiled in America," says James Smith, manager of emerging Internet technologies for IBM. "In Novosibirsk, they work from a different mindset. They need to generate capital if they're going to move forward and buy a house or build a business."



ACADEMY TOWN Opposite: on the streets of Akademgorodok, Russia's new software hot spot. Above: public housing built for scientists and their families; at the New York Pizza shop.

IBM now works with, among others, a Novosoft spinoff called Axmor, employing web mashup technologies—combining a spreadsheet, say, with a Google map—to create applications for clients in digital media and retail banking. Smith dispatches his marching orders from IBM's suburban campus in Raleigh. Axmor, meanwhile, finds itself in a renovated apartment complex on the edge of Akademgorodok, a pack of mongrels lurking about the entrance. Inside the office, two slender, sun-deprived

code punchers are playing table-hockey.

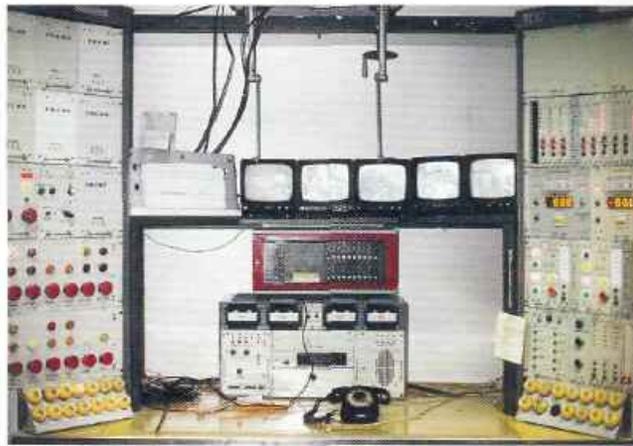
Pavel Toponogov, Axmor's director, has turned a \$30,000 investment into \$1 million in revenue in just a few years. The bulk of work comes from outside Russia, much of it generated through Internet advertising. That is the way Harpo Productions, Oprah Winfrey's media company, hired Axmor to build a web portal. "We didn't really know who Oprah was," says Andrey Kanonirov, Axmor's IBM project manager, "but we know who she is now."

IN RUSSIA, outside of Moscow and St. Petersburg, hunting for computer service and parts is a game marked by retail incompetence and technical incompatibility, a product of last decade's models and the last regime's disregard for the wishes of the customer class. Not so in Novosibirsk. Walk into Technocity in Akademgorodok and not only will you encounter the kind of service that betrays the sales force's acquaintance with capitalist fundamentals, but you had also better hope that your own hardware is up to speed. With Bluetooth rigs jammed into their ears, the attendants will let you know that their merchandise moves so quickly that all they have is the newest of the new, about which they are highly conversant. As this sinks in, walk out the door and deposit a few rubles in the hand of a terrified pensioner whom society has cast aside.

There's a lot of that in this town, the up-to-date encased in the same old sausage skin, the ultramodern colliding with the outmoded. Developers at Broker Consulting Services design a Panasonic home-theater system in a building that once served as casing for a giant computer, in the days when mainframes were of such size. Laser Crystal Solutions, which grows crystals under a lucrative contract with a California photonics firm, operates out of a darkened warehouse. One of the top exporters in Akademgorodok, the Novosibirsk Institute of Nuclear Physics, houses an electron-positron collider that its 65-year-old director used during his school days. In a drafty hangar that was until recently inhabited by drunks and rodents. Screen Photo Electronic Instruments produces night vision devices for a San Francisco company. "It's so cold here," says Vladimir Aksyonov, the general director, wrapped in a white lab coat, "there's nothing to do but work."

Even with less than ideal facilities, Akademgorodok presents a singular picture of Russia. A sense of purpose is difficult to ignore. "What you feel out there is pride," says Intel's Chase. "That's what their history is all about."

Before the railroad came to Novosibirsk in 1893, travelers en-



BACK IN THE U.S.S.R. A collider at the Institute for Nuclear Physics

dured a ten-month journey to reach the area by horse cart from Moscow. Now, Dmitry Verkhovod interrupts a meeting to sign for an overnight package from Ozon, Russia's equivalent of Amazon.com. "Look at this," he says, tossing the package from hand to hand. "Even out here in Siberia, I can receive DVDs, books, music."

Verkhovod, deputy president of the Siberian branch

of the Russian Academy of Sciences, is the man in charge of plans for Novosibirsk's one-million-square-foot business center, designed to alter the way Akademgorodok tech is turned into profit. "The history of Novosibirsk is a series of jumps like this," Verkhovod says, spreading architectural drawings across his desk.

First the rails came, the town sprouting up after engineers chose this barren spot for the Trans-Siberian Railroad to cross the Ob River. Then, during World War II, the state evacuated factories from western Russia to the safe harbor of Novosibirsk. Akademgorodok was the next major development. "This will be another jump," Verkhovod says. "Right now we don't have a way to commercialize our developments. The Novosibirsk Akademgorodok is a huge brand, and it has to be marketed."

Novosibirsk's tech center will be one of four in Russia, part of a plan President Vladimir Putin announced in Akademgorodok in 2005, on the heels of a trip to tech-savvy India. The complex will receive \$100 million in state funding for infrastructure, with private firms kicking in the rest and receiving tax breaks in return.

High tech is the sort of thing the Kremlin would like to develop, understanding that natural resources can't last forever and brain resources need tapping. "We simply mustn't waste this chance," Putin declared. But Russia is still learning on the fly. The Ministry for Information Technology and Communications was established only in 2004. Deputy minister Milovantsev stresses patience. "It's not like building a house, where you put people in it and they're happy," he says. "Our goals are more distant."

Lenin once commented disapprovingly about the disposition of the Siberian peasant: wealthy, satisfied, and uninterested in revolution. But there are revolutions of grapeshot, and those that employ more subtle means. In the tech revolution, Novosibirsk has shown itself to be more than game.

"My grandfather was a fighter," Lavrentyev says, emerging from his institute, braced against a cutting wind, wearing only a sport coat. Attached to his lapel is a small pin, a cameo of his grandfather. "I think he would appreciate worldwide high-tech brands like Intel and Schlumberger here. At the same time, I think he would want business to pay for using our brains." Q