PART II

OUTWARD-LOOKING ENCLAVES
When viewed from Moscow or Saint Petersburg, the IT industry in Vladivostok does not seem like a remarkable place. Most of our interlocutors from the Russian capitals have no clear idea about the activity of their colleagues on the Pacific coast: located more than five thousand miles away from Moscow and feeling even more remote due to the seven-hour time difference, observers may perceive it as a small and negligible periphery. However, a closer look at Vladivostok’s IT community offers a peculiar picture of local IT development, inseparable from the region’s geographical and historical context and instructive for understanding post-Soviet transformations.

The IT sphere in the Far East of Russia emerged in the wake of the social and economic crisis created by the collapse of the Soviet Union. Relying on the knowledge and skills acquired by the late Soviet academia and seizing on the opportunities presented by the subsequent turmoil, local experts succeeded in adapting to the new emergent market economy and built their businesses by mobilizing their professional competences, alumni networks, and creative thinking skills. This chapter contributes to the growing literature on emerging ecologies of knowledge and innovation (Arora and Gambardella 2005; Drori, Ellis, and Shapira 2013; Saxenian 1994), the relationship between universities and industry (Chen and Kenney 2007; Kenney 1986, 2000; Kenney and Mowery 2014; Sohn and Kenney 2007), and the role of IT entrepreneurship in promoting regional development (Francis, Bercovitz, and Feldman 2005; Kenny 2000). It also helps to fill a gap in the history of computer science and IT in the late Soviet Union (Gerovitch 2002; Peters 2016; Tatarchenko 2013), a history yet almost unwritten (Tatarchenko, this volume).
The institutional development of academic knowledge in Primorye, which literally means “close to the sea,” started early in the Soviet period: in 1923, the Far Eastern Department of the Academy of Sciences (As) of the USSR was founded. For several decades, it prioritized “studying the productive resources of the Far East for the needs of the people’s economy of the region.” This regional but also quasi-colonial approach prioritizing the exploration of local natural resources lasted until the 1970s, when the emphasis shifted toward fundamental research in natural and hard sciences and the training of local academicians. Eventually, in the early 1970s, several new As institutes were established, including the Institute of Chemistry and the Institute of Automation and Control Processes, equipped with a computing center. Following the usual Soviet practice of postgraduate professional placement, new graduates from the country’s best universities were assigned to work in the region.

Artur, a sixty-six-year-old researcher at the As Institute of Applied Mathematics, recalls: “When I came here in 1972 it was a kind of a landing of troops: I was one of a hundred people from the leading universities of Moscow, Leningrad, and Novosibirsk and a few people from Kiev. Well, this group was soon to play its role.”

To host the arriving young specialists, often relocating with their families, a new academic campus was constructed in the suburbs of Vladivostok. It soon became a hotspot center of local cultural and public life: “Creating the Far-Eastern scientific center stirred up the cultural life of the city [quite a bit], and [gave rise to] various youth organizations. In the 1970s, enthusiastic scientific workers created a ‘Club of friends of cinema,’ Vostok (‘The East’), ‘Club of fans of ballet,’ and a folk songs movement was expanding. These initiatives mostly belonged to the new-comers” (Kuznetsov 2014, 148).

The newly constructed campus was inspired by the model of Novosibirsk Akademgorodok (see Indukaev, this volume) and other late Soviet science cities: they were designed as “green cities” convenient for intensive intellectual life but also suitable for the development of informal, social, and neighborly networks. The memoirs of the former residents of these cities are rich in descriptions about a dense local academic and cultural life.

In the 1970s and 1980s, a community of IT experts emerged in Vladivostok thanks to the institutional and professional interactions of specialists working within the academic context—in the research centers of the Acad-
emy of Science and in public universities. These were mainly mathematicians, cyberneticists, and electronic engineers employed within the three main centers: the Institute of Automation and Control Processes (1971), Institute of Applied Mathematics (1988), and Institute of Marine Technology Problems specializing in underwater robots (1988). Besides these institutes, other important knowledge centers included the Department of Mathematics and Informatics at the Far Eastern State University (FESU) and the Department of Electronics and Instrument Engineering at the Far Eastern State Technical University (FESTU).

Although the research agendas and institutional interests of the Academy of Science and public universities differed considerably, a professional community interested in new calculating machines and computer sciences (informatika) emerged and maintained itself through regular informal professional exchanges with colleagues rather than through specific institutional formats. As Tatarchenko explains in this volume, while the state universities “resisted classes in computing” and were busy arguing about the pedagogical agenda and the format of the curriculum, masses of programmers were actually trained on the job by the Soviet computer industry and dispersed through the professional networks. In the case of Vladivostok, for university students interested in IT one way to get introduced to the new field was, for example, to do an internship and/or PhD program at one of the institutes, where computers were used for specific research purposes. However, the intellectual and institutional environment of these R&D centers offered very specific settings for IT as an “assistance service” for maintaining concrete and highly specialized activities of the laboratories and, thus, did not often allow for scientific research in computer science (CS) as an independent field.

The massive increase of interest in IT technologies in the Far East in the 1980s was due to the introduction of school computers imported from Japan: the Yamaha MSX. In 1984, a new academic subject—“Fundamentals of Informatics and Computer Engineering”—was introduced throughout the Soviet Union as part of a regular secondary school curriculum in order “to assure the computer literacy of the youth.” Moreover, the officials considered the reform to be urgent and “requiring the adoption of immediate measures” (for the genealogy of this reform, see Tatarchenko, this volume). By this time, the Soviet authorities had already given up on the plan to develop national hardware and instead relied on imported machines; so, in 1985–86, a special competition was organized by the state to identify the best computers for educational purposes. In Vladivostok, this resulted in the large-scale
centralized purchase of Yamaha MSX-1 kits. Although we lack a detailed history of this reform and a clear account on how the decisions on this purchase were made, we know that the task to provide schools with computers was delegated to local authorities and, therefore, carried out at the expense of large regional enterprises in the framework of Soviet school patronage politics. Hence, one can suggest that the decision in favor of MSX-1 computers (and the next-generation MSX-2) was very much thanks to geography and preestablished contacts between local Vladivostok industries and Japan. Whatever the means used, by the early 1990s, almost all secondary schools in Vladivostok offered computer classes equipped with MSX-1 and MSX-2 computers.

The availability of school computers allowed for more regional organization of computer training on a mass scale. In the Far East, this development is strongly associated with the name of Kirill Fakhrutdinov, then head of Mathematics and Informatics at Far Eastern State University and a former graduate of Leningrad State University. Together with his colleagues and students, Fakhrutdinov initiated training programs for schools and school teachers across the entire Far East region and launched the development of software for the Yamaha MSX-2. The programs developed by this team were widely used after the collapse of the USSR and remained an important educational support in the “times of troubles”: students from Vladivostok who participated in and won the All-Russian School Olympiads—annual school competitions in programming—were all trained on MSX-2 machines and Fakhrutdinov’s team’s software.

This wide computerization of the region with Japanese machines laid the cornerstone for educating the first “computer generation” not only in Vladivostok but in many other Soviet cities as well. An important feature that contributed to the popularity of the Yamaha MSX-2 was that along with educational applications it allowed for computer games and, therefore, opened a new and playful modality of appropriating coding skills and tech culture. The Yamaha MSX-2 was a revolutionary machine that even today retains its popularity among former school users and remains one of the most emulated computers. As a participant of the MSX Resource Center Forum writes:

As soon as I got a Yamaha [computer] I immediately understood everything—assembler language, ASCII codes and C. The MSX computers were obviously ahead of their time. The PCs similar in their multimedia capacities appeared only by 1995. And I’m happy that the oldy-moldy MSX was my real first computer. Investigating all [its features], it was with MSX that
I learned how to write efficient code, compact, fast and one that was able to beat the shit out of that hardware. And this is an art you can’t drink away. With such a first experience one can code for any computer and any os. And what advanced games there were . . . (msx Resource Center Forum 2009)

THE EMERGENCE OF LOCAL IT BUSINESSES

The fall of the Berlin Wall and the dissolution of the Soviet Union in 1991 resulted in the consequent social and economic crises that profoundly changed the local knowledge ecology in the Far East, as well as in other regions of the country. On the one hand, all public sectors—including the state universities and academic research centers—were suddenly drastically underfunded and left to fend for themselves. On the other hand, the introduction of a free-market economy offered new opportunities outside of academia. As computers became increasingly common, the demand for programmers increased dramatically on the labor market. At the same time, the lack of professionals with relevant competences and experience opened the opportunity to take a job as a programmer not only to graduates from mathematics departments but also to physicists, engineers, and anyone else who felt him- or herself capable of learning computer code. As Dmitriy Alekseyev, a forty-year-old engineer and successful IT entrepreneur, explains:

There is a Department of Electronics and Instrument Engineering, it’s not quite a programmers’ department, and it’s still [designed] for the electronics engineers . . . But then . . . well, there was high demand for programmers and computer geeks in the ’90s, and zero demand for electronic engineers. . . . And it is clear that the graduates were very much focused on this [programmers] community.

The lack of professional programmers on the labor market was significantly escalated by the brain drain migration, well documented for the 1990s (see also Antoschyuk; West; and Fedorova on Israel, all in this volume). As international IT companies came to Russia to investigate a new and promising market and to headhunt for talent, local R&D centers, universities, and academic institutes quickly lost their best specialists, many of whom left to join the commercial sector or relocate abroad or to other regions with their families. For example, Kirill Fakhrutdinov, one of the key IT and computer science persons in the Far East, left Russia for the US in 1997. According to official data, 720,000 people (about 10 percent of the population) left the Far East between 1996 and 2006. These were mostly people of working age.
and with high qualifications (Resolution of RF Government 1996). The brain drain issue was one of the most sensitive topics in our interviews: Aleksandr, a thirty-seven-year-old IT and computer science expert, recalls:

When I had been studying, we still had very strong specialists, but they had been leaving right before our eyes. I mean, in my second year, we were taught by a really very famous person, who raised up the whole industry. . . . And he moved away right during my studies. . . . At that time, in the 1990s, this phenomenon was huge, it was just something. . . . In fact, later it relaxed a bit . . . but still from my class [at math school] there remained . . . I don’t know, maybe three guys in Vladivostok.

Yet unlike many other regional former Soviet cities, Vladivostok quickly adapted to the new economic logic. The geographic situatedness on the border of the country, local technical experience, and the informal economic networks that had developed in the city during the late Soviet period now became a breeding ground for the emergence of a regional IT market. The weak state control regulations that can be summed up by Yeltsin’s formula “Take as much sovereignty as you can swallow”—emblematic for the 1990s—were also a blessing in disguise for the evolution of a competitive environment in the Vladivostok region.

**USED JAPANESE CARS AS AN AGENT OF CHANGE**

The introduction of market capitalism allowed for a rapid development of border trade with China, Korea, and, most importantly, Japan. As in the late nineteenth century, when Vladivostok was an important gateway of the Russian Empire to international trade across the Pacific, once again it became an important trade route in the 1990s. The fall of the Iron Curtain quickly stimulated a private foreign import trade of Japanese used cars. Owning a private car was the dream of many Soviet people in the 1970s and 1980s; under the crisis state of public transportation in the 1990s, this dream also became a necessity, and the demand for relatively cheap used vehicles soared. Accompanied by many dramatic and even criminal stories, businesses related to the trade in Japanese cars became crucial for the economy of the Far East in the 1990s. Hence, right-hand-drive vehicles spread quickly to Vladivostok, then across Siberia, and into the neighboring countries of Central Asia.

Many of the city’s IT companies emerged with the development of the used car import market from Japan. The explosive growth of this commerce stimulated the development of active online trading. The complicated lo-
istics associated with automobile importing (gathering specific information about the used cars, including photos, making spare parts available, online tracking of the vehicles, etc.) posed challenges to local IT specialists. The university training they had received was insufficient to meet market expectations and—as in many other cases documented in this volume—many had to retrain themselves on the job. Information technology specialists in Vladivostok seized the opportunity to develop online trade services, electronic catalogues, search tools, online price calculators, electronic delivery “trackers,” software for stock management, and the list goes on. In the post-Soviet economic context, this frenetic and creative activity, which emerged out of a necessity to build one's life in the context of social and economic uncertainty, produced a completely new type of IT business in Russia. Our interlocutors tend to represent that process as the unfolding of a new industry: car importing stimulated local businesses specializing in automobile maintenance and restoration wherein the old vehicles were repaired, repainted, tuned, and retrofitted with Russian-language instruments, and adapted for their new lives in Russia. “Whole software complexes were being developed back then. We've already developed standards, a common platform, software for companies which sell or maintain cars, etc.,” said Aleksandr.

From the outset, much of this business was conducted online, which placed a premium on IT competence. In Vladivostok, much earlier than elsewhere in Russia, virtual business became the norm. Any automobile or parts trader—when his business had expanded to a certain point—sought not just representation for his company online but also his own in-house IT studio. Vadim, a twenty-seven-year-old IT developer, speculates: “Suppose some companies, selling for instance car tires, achieve a turnover large enough to buy a whole web studio straight away. It will be creating, say, their website, and their website only. It can employ a dozen workers, usually students. I mean, as a matter of fact, there’s no such thing [anywhere else?] I know about.” The second part of the 2000s was a period of rapid development for online trade worldwide. It started with the “business-to-business deals” and quickly spread to wholesale and retail businesses. In Vladivostok, this trend was further enforced by the urgent need to set up video-mediated communications allowing Russian customers to participate remotely in car auctions in Japan and provide semiautomated translations. A command of virtual communications gave companies an important competitive advantage. In terms of local IT development, this task was a big challenge for the professional community, as it required sophisticated computer science skills that Soviet education and training had not provided; back then, the issue of
semiautomated simultaneous translation was on the cutting edge of computer sciences. Typically, this kind of technical expertise was a prerequisite in two kinds of business: the market for automobiles and the market for electronics and domestic supplies. It was precisely within these sectors that the customer base was also most ready to adopt these new online sales practices. Hence, Vladivostok and its region literally drove its “peculiar” right-hand-drive Japanese cars into the computer age.

Used car imports from Japan quickly became the local economy’s major branch, impacting Vladivostok and the entire surrounding area. By 2008, the import of Japanese cars had given Vladivostok the greatest vehicle density in all of Russia: 566 cars per one thousand inhabitants (Avto 2008). Such a concentration of cars had negative effects on urban infrastructure, the ecology, and the health of Vladivostok’s residents. At the same time, the burgeoning business related to the import of Japanese cars provided the city with new job opportunities, attracting workers from nearby regions. Port and shipping workers, customer brokers, salesmen, traders, and car mechanics were all in high demand, and both locals and newcomers quickly became integrated into the new economic setting and powered the development of a market economy in the entire region.

**THE GROWTH OF IT COMPANIES IN THE VLADIVOSTOK REGION**

a) Drom.ru and the FarPost Company

The relationship between the automobile import sector and the growth and expansion of IT knowledge in the region can be well illustrated by two business initiatives undertaken by Yegor Nikolayev, a graduate of the FESU Department of Informatics and one of the main IT stakeholders in the Far East.

Back in 1998, the Drom.ru project started as a web portal dedicated to commerce in Japanese cars. It soon became the most important information hub for car enthusiasts and commercially successful automobile enterprises. Today, Drom.ru is the largest internet community dedicated to cars, counting more than eight million users in the Russian Federation (Drom.ru 2011), and recipient of the highest popular ratings of car websites in Russia. Its most popular feature is the forum where car owners share details of their experiences with various car makes and models.

The commercial success of Drom.ru allowed Yegor Nikolayev and his team to undertake other projects, in particular Vl.ru (“Virtual Vladivostok”), an information-oriented web domain. Vl.ru offers a large spectrum
of applications relevant to different aspects of city life, including news, map, a shopping guide, and even a special service for university applicants.8

To some extent, the company informs the life of the city . . . about everything, from nightclubs to political issues. So, it’s about cinemas, museums, leisure, but also news, urgent news. . . . When the [disaster] happened with Fukushima, we posted the radiation [level]. When the notorious flood happened in Khabarovsk, we [reported on] the level of water. (Anton, aged twenty-five, IT developer and lecturer at the Far Eastern Federal University [FEFU])

The various projects by Yegor Nikolayev are now united in a single holding called FarPost, which is recognized as a regional leader in internet services and is the local competitor of Yandex, the Moscow-based national internet service (see Fedorova on Yandex, this volume). Through its development of thematic web forums, hosting services, and its own network of banner advertisements, FarPost became the most comprehensive, well-structured, and user-friendly catalogue of internet resources in the Far East region. According to our interviews and field experiences, on the local level FarPost definitely remains the main reference point for regional everyday life, often outperforming Yandex. For instance, Yandex.Map fails to provide a traveler with an adequate map of Vladivostok, while FarPost does. Evidence of this local superiority can be seen even along Vladivostok’s major avenues, where huge Yandex.Market billboards tout the company’s services with a fervor that suggests the difficulties it has in competing in the Far Eastern market.

A trait of the FarPost holding is its strong regional identity and socially responsible self-presentation. Its ambition was to build a publicly recognized resource and, according to Vl.ru’s mission statement, “take [the] business of Vladivostok and the Far East to the Internet, thus making it civilized and [conformant with] global standards” (Businesspress 2002).

b) Rhonda Software

Beginning in the mid-1990s, foreign IT companies eagerly entered the young Russian market and penetrated deep into the Siberian and Ural regions. For instance, by 1995, IBM had opened offices in five Russian cities: Moscow, Saint Petersburg, Vladivostok, Chelyabinsk, and Tyumen (Lyudmirskiy and Malyutin 1995). The potential for collaboration with Western companies can be well demonstrated by the history of Rhonda Software (RS), one regional
Another example of successful e-commerce in Vladivostok is the DNS company, which owns a chain of supermarkets selling digital goods. Founded in 1998, it has become one of Russia’s leading digital retailers, serving more than four hundred cities throughout the country and producing its own laptops, desktops, monitors, uninterruptible power supply, and other computer accessories under the brand names DNS and AirTone.

Although DNS is a national retail company marketing computer supplies, it is also one of the critical stakeholders in Vladivostok’s IT market. Moreover, the DNS case highlights the significant presence of engineers in Russian IT. While most other local firms were started by graduates from the FESU Informatics Department, DNS was launched by a group of friends who had graduated from the Far Eastern State Technical University. They were electronic engineers who were extremely well trained but whose skills were not in much demand during Vladivostok’s booming IT market of the 1990s. Although most of them became successful programmers, they shared a distinct “manual” technical culture focused on hardware, engineering, and the material side of computers. The company positions itself in the market as a team of practical professionals and practitioners—“fans of the digital lifestyle” and “already something more than just a trade company,” as stated on the official website (DNS 2016). With their focus on hardware, they created a digital platform for discussing the newest gadgets and offering advice from enthusiasts and experts alike on purchasing, using, and repairing digital equipment. As
a clearinghouse for information on computers, DNS has created a large community of people interested in the newest technologies: today, it hosts more than eighty thousand users. Like Drom.ru (developed by FarPost), the DNS Technopoint.ru website conforms to international technological standards and is the most visited Web-sale platform in Russia.

In addition to its focus on hardware, DNS develops software for corporate use and is one of the biggest employers of graduates from the IT departments of local universities. Today, it employs around 150 IT professionals supporting online trade across Russia. The company’s cofounder, Dmitriy Alekseyev, is one of the most respected IT experts in Vladivostok and an enthusiastic promoter of robotics.

d) Kama Games

Finally, we discuss the case of a successful local company, Kama Games, a studio specializing in developing games for mobile devices. The story of this firm, however, represents a notorious case within the IT business community because, in local memory, it remains both the most brilliant commercial success and the worst failure in terms of business practices.

In 2010, the multiplayer game Pokerist Texas Poker developed by Kama Games suddenly rose into the top-five rankings of Google Play in twenty-five countries; in eighty-nine countries, it rose to first place in the App Store. Unexpectedly large and immediate earnings allowed Kama Games to aggressively “buy up” specialists by offering wages far above the local average, virtually taking over the IT labor market around Vladivostok. Yevgeniy, a thirty-five-year-old IT developer, explains:

It was decided to hire the best IT specialists in the city. And the firm offered such [high] salaries, that everybody accepted. As I understand, absolutely everybody aspired to get in there. . . . And they really gathered if not all the best . . . then some of the best programmers in the city . . . and for some time it was very comfortable to work there. Even today their office is the best in Vladivostok, if not in the whole Far East.

However, Kama’s tactics challenged the local IT community: on the one hand, small studios were not able to keep their best personnel; on the other, even underqualified IT specialists started demanding substantially higher compensation. Moreover, the discussions about the remuneration of the IT labor changed the “mood” of the community and introduced a clear wage-based hierarchy of experts. Rising salary expectations also extended to those
who did not have the opportunity or the desire to join Kama Games, making them consider vacancies abroad and triggering yet another wave of emigration. Soon thereafter the owner decided to relocate the company to Moscow, and then later to Dublin. Today, Kama Games has only a minor department in Vladivostok.

In local memory, Kama Games is a negative example of “dirty business,” aggressive and incompatible with the ethos of the IT field. To emphasize the distinctively correct and knowledge-based character of IT business and explain the Kama Games anomaly/exception, Vladivostok’s IT experts point to the business genealogy of Denis Dranitsyn, the company’s owner. Dranitsyn entered the IT market from the construction industry, without being an IT specialist himself. Moreover, in some cases the discussion of Kama Games made our interlocutors speculate about the moral side of the game industry in general, thus revealing the old Soviet juxtaposition of “useful” and “spoil- ing” leisure practices. Thus, by contrasting styles in IT and construction businesses, IT professionals defend a certain image and morality of their professional activities which they tend to imagine as being based on expertise and social responsibility rather than on contingencies and opportunities of “wild” capitalism.

The companies discussed above (except for Kama Games) are representative of the early days of IT development in Vladivostok when they tended to serve the emerging private computer market. Since the mid-2000s, the focus has shifted toward the IT needs of the state and public institutions: new firms have arisen to specialize in the development of software facilitating integration with federal information systems, such as cryptography, messengers, intranet, and so on (this shift is also noted in Kontareva, this volume). Yet according to our interviews, the most prominent firms today still work for the consumer and business markets, focusing on the development of new web products (FarPost and Drom.ru), outsourcing (Rhonda and small game developers), and online trade combined with internal software development (DNS and Monastyrev-pharmacy).

UNIVERSITY AND BUSINESS: SURVIVAL BY COOPERATION

As in many regions of Russia, the social and economic crises of the 1990s had dramatic consequences in all spheres of public life, including public universities. Due to the lack of funding, Vladivostok technical schools were losing their best teachers through emigration or to the commercial sector. At the same time, although the outmigration from Vladivostok was consid-
erable, the city remained an important regional university city and, thus, kept receiving school graduates coming from the entire Far East region, from South Primorye (on the Korean border) to Yakutiya and Kamchatka.

Under these conditions, the only way to maintain the level of university training was to involve more young professionals in teaching. This problem was particularly topical, as the newly established IT businesses lacked professionals able to deal with complex IT tasks, while local universities failed to provide the market with sufficiently competent workers. The general dissatisfaction with the skills of graduates forced businesses to be in touch with local educational centers and to participate in additional student training. This particular context pushed both sides—universities and industry—to look for common ground and build up cooperation. In many cases, such cooperation was the result of individual efforts undertaken by local experts and enthusiasts. The life story of Aleksandr Klenin, the former head of the Informatics Department at the Far Eastern State University, is emblematic in this respect.

Today, mathematics students at university start working for IT firms by their third year, and quickly gain the kind of professional experience that is unobtainable in academia. Raised in a family of Soviet scholars, Aleksandr started his professional trajectory in IT when he was in the ninth grade. Back then, he was hired as a programmer at one of the recently opened banks, and had to learn everything on the job. A few years later, when he entered university and was formally a freshman himself, Aleksandr continued combining his studies with work in the private sector; moreover, very soon he started to teach at the university:

You know, when I entered the university, one can say, there were no teachers able to teach us anything new. I mean, there was math analysis, sports, history, but nobody could teach special courses. So, I have been teaching starting from my first year [of university studies]. Of course, this was not official, because officially this would be impossible, and yet... Because nobody was able to say anything new in Vladivostok. Nobody at all... And our best teachers knew that.

Even after his graduation in 1996, when Aleksandr officially became a university teacher and then—later—the head of the department (although he never obtained a PhD degree), he coupled teaching with practical work in the IT industry. Moreover, as head of the department, he always continued to interact with former students while encouraging them to contribute to their alma mater:
We are trying to attract teachers who are practicing programmers. I myself work actively, well, I literally code. Obviously, the university does not pay [much] money, and everyone earns money outside. This is, of course, terrible, but if a teacher has managed to survive, this means he can earn money somewhere else. And it makes a huge difference.

This quote points to a major identity crisis that occurred within the educational system for IT professionals in today’s Russia: only someone who works outside academia is recognized as a qualified teacher, while a full-time university professor is perceived as a “loser” or, at the very least, an underskilled practitioner. In the same vein, Andrey Indukaev argues in this volume that “competences are now concentrated in the IT industry” as opposed to universities. Yet at the same time, the gradual recovery of the regional economy—which took off around the turn of the millennium—and the growing demand for IT specialists in the labor market helped young graduates find good jobs and think of themselves as real experts. Put together, this feeling of “being a pro,” along with the old-fashioned Soviet prestige of the university as a temple of knowledge, enticed many recent graduates to engage in university teaching, although this kind of work was often done on a quasi-voluntary basis.

Thus, while in many ways deleterious, the immediate departure of the best IT minds had some positive, though unexpected and underestimated, side effects. First, it stimulated social and professional mobility for young graduates; and second, it forced IT companies and universities to collaborate, if for no other reason than as a survival strategy (compare with Drori, Ellis, and Shapira 2013, who argue that this was also one of the crucial factors in Israel’s technological development).

The university’s strategy of cooperation with its alumni turned out to be crucial for maintaining the level of both theoretical and professional training. Despite the lack of adequate university training and a large outflow of employees from universities, the departments providing training in programming and computer sciences managed to progress and develop under conditions of permanent crisis. The active and interested involvement of practitioners in teaching helped to shape a common understanding of the IT profession and introduce an industry-oriented approach into education practices. Local IT practitioners—often the alumni themselves—got involved not only in teaching but also in revising the academic curriculum and, thus, played an important role in readjusting university training according to the expectations of local firms and potential employers. Moreover, profession-
als who combined work in academia and in industry could transmit to the younger generation their understanding of good practices and their styles of coding. Therefore, they helped to develop professional standards and identity as performed through the practices of coding (the issue of style and standardization of coding as a feature of corporate identity is discussed in Fedorova on Yandex, this volume).

A thorough understanding of both sides—university teaching and the demands of the IT industry—allowed Aleksandr Klenin and his former students to build educational “bridges” between academia and business and, hence, to bring their individual efforts to the institutional level. In this activity, the Informatics Department at the Far Eastern State University became the key node in the network between the main IT companies in Vladivostok and the university. Our interlocutors estimate that about 50 percent of practicing IT experts in the Far East, including leading entrepreneurs, passed through this department. Prominent industry representatives feel that graduates from this department are better adapted than before to the requirements of today’s business and are thus in the highest demand in the labor market. Aleksandr is regularly contacted to provide information about his former students, which is considered more valuable and useful than any written recommendation.

No doubt, today Aleksandr Klenin is one of the key figures on the IT scene in Vladivostok. In different contexts, he was referred to by our other interlocutors as one of the best IT experts and community leaders. Growing professionally between industry and academia and holding positions on both sides, Aleksandr himself became a “bridge” across the river of IT knowledge and practices. To concretize Aleksandr’s trajectory and give another example of “institutional bridging” between the worlds of education and industrial programming, we would like to discuss the role of his mother, Nadezhda Klenina, a mathematician and university teacher.

ACM ICPC Championship in Vladivostok

Being a gifted and engaged pedagogue, Nadezhda has always been interested in early programming and put a lot of effort into promoting programming skills in the region. For instance, she supervises the “Academy for Young Programmers,” weekly programming courses for school students set up within the institutional framework of the Informatics Department of the Far Eastern State University. This initiative allows gifted juniors to be trained by the best teachers and practitioners of Vladivostok.

In 1996, Nadezhda was part of Kirill Fakhrutdinov’s team who organized the first ACM ICPC championship, thus, putting the Far East region on the
map of international IT. While many of the initial ideologists left Vladivostok for good, Nadezhda was the person who maintained the educational tradition. Since 1996, she has annually devoted about two months of her life to organizing the competition. Today, it has become the Russian quarterfinal of the prestigious programming championship for students, which is listed among the most notable networking and recruiting events for the IT business. Most of the teams’ coaches are former participants themselves; hence, this regular training and coaching maintains continuity by ensuring the transfer of knowledge and professional skills as well as imparting a corporate understanding of IT labor as highly intellectual, and even “beautiful.”

Aleksandr, who first participated in the ACM ICPC as a student and, indeed, was part of the team that came in tenth in the All-Russian competition, is now one of the Vladivostok teams’ trainers.

The practical side of organizing the championship is also evidence of the entanglements between individual trajectories, IT education, and the IT-industry in Vladivostok. For instance, one of the major sponsors of the ACM ICPC is Rhonda Software, the company consisting of many of Klenin’s former students. As Aleksandr puts it:

Rhonda has always been our sponsor, that is for old times’ sake. . . . Because they one and all—from director to our colleague [who combines work for Rhonda and university teaching]—are, in different senses, our graduates.

The ACM ICPC championship is also a remarkable example of a venue, where personal relationships based on friendship and professional solidarity meet business interests. On the one hand, the ACM ICPC is hosted by the Department of Informatics and, thus, operates as an important additional platform for IT training, “bridging” the formal curriculum of the university. The preparations for a competition presuppose year-round training and serve as a kind of semiprofessional disciplinary format: as one of our interlocutors phrased it quite well, “You need to sit down, glue yourself to the chair, and code nonstop.” On the other hand, the championship is a venue for performing excellence and up-to-date best practices, and hence functions as an event that literally brings together all the IT experts of Vladivostok. It is a good occasion to meet colleagues and friends and—in addition—to negotiate business with partners and headhunt young participants. Unsurprisingly, for the same reason, many of the local IT companies sponsor the Far Eastern stage of ACM ICPC and other student competitions. By allocating winners’ prizes, companies keep an eye out for potential employees while
showcasing themselves as good employers (compare with the educational initiatives by Yandex documented by Fedorova, this volume). Igor, a twenty-nine-year-old IT professional, who for seven years (until 2012) combined teaching and industrial programming, describes the competition as follows:

Look at the championship ACM, for example, which takes place at the university: it usually gathers people to talk—they are not much involved in the jury, and not even necessarily organizers. This championship, watching the competitions, often brings together people who once participated, who are now engaged in professional activities, and still they often show up there. But the main goal of the event, surely, is not in this [networking], even though it serves this task as well.

Thus, the individual efforts by Aleksandr and Nadezhda Klenin and their colleagues indeed created something more than just another local educational project. Their devotion to the IT profession, deep pedagogical engagement with students and alumni, and strong regional identity all greatly contributed to the consolidation and reproduction of Vladivostok’s IT community and to the establishment of professional standards of IT knowledge.

Today, almost all local IT companies take part in IT educational projects. For instance, FarPost organizes short-term courses on specific IT topics and offers student internships, often designed around engagement in a concrete project. Recently, within the framework of cooperation with the Far East Federal University, students were involved in developing a university guide app under the leadership of FarPost experts. Such collaboration allowed the university to get a cheap and good-quality app as well as provide students with practical training, while the company contributed to the professionalization of future programmers and was afforded an advantageous recruiting opportunity. FarPost is also one of the regular sponsors of the ACM ICPC championship.

Similarly, Rhonda Software and DNS are regular sponsors of university programming competitions. Moreover, Dmitriy Alekseyev (DNS) has initiated and invested himself in the creation of the Center for the Development of Robotics in Vladivostok. During the interview, he confessed:

In fact, I did not intend to get myself into education or any children’s activities, but step by step. . . . First, I just wanted to support a movement. . . . By the way, I saw how the ACM [championship] had been developing. . . . There is a kind of process, some competitions are going on . . . and I liked it very much there, it’s very cool and good. But then I was surprised why nothing similar happens within robotics, where there [are] so many interesting
things? ... At first, I wanted to help an internal championship but discovered that, in fact, there is no internal championship at all, nothing is run, and that's why there are no teams. Well ... I tried to organize and motivate, let's say, the bureaucratic machine ... but then realized it's easier to do everything myself. Looking at results, and applied efforts, it's much more efficient to do it, to do everything myself.

Thus, born amid the social and economic uncertainties and instabilities of the post-Soviet period, a unique IT ecosystem had developed in Vladivostok by the mid-2000s. With its reasonably effective business models and patterns of interactions, this ecosystem proved to be efficient, resistant to crises, and able to sustain itself within the regional economy. Moreover, the critical need to maintain the reproduction of professionals pushed local IT industries to cooperate with public universities and thus compensate for the loss of cadres produced by a massive emigration of professionals. This cooperation helped (at least partly) to adjust public education to industry needs, a major problem still current today. It also, very importantly, allowed symbolic continuities in the process of forming a professional community identity to be preserved.

Nevertheless, all this progress and development in the Far Eastern IT industry went almost unnoticed and, alas, unappreciated by the federal government. Rooted, on the one hand, in the period of weak state regulation in the 1990s and, on the other hand, in the Soviet tradition of supplementary education and early professionalization, the IT industry emerged from the bottom up. Its emergence was due to local initiatives and individual efforts, and ingrained with a strong sense of regional particularity in the face of suspicion and hostility from and toward the center.

RECONFIGURATIONS AFTER 2008

The automobile business paradise tumbled down in December 2008, when the Russian government introduced a new policy that doubled customs duties on imported cars older than five years. This decision was to protect Russia's automobile industry, which could not compete with foreign used vehicles. Most of Vladivostok's companies specializing in the car trade, including online trading, could not survive under the new policy and either closed or significantly curtailed their businesses.

As an act of resistance, local car dealers started to import cars as kits of spare parts that could be checked and approved by customs on the border.
as spare parts rather than vehicles. Such kits—remembered in Vladivostok as *konstruktory* and in Japan as *matreshkas*—were afterward reassembled by local handymen into functioning cars and sold. Although matreshkas enjoyed a good reputation for their quality, which is indicative of the high level of Vladivostok craftsmanship, the police authorities were reluctant to register them as vehicles. Nevertheless, this semilegal trade persisted until 2010–11 (Motoi 2013).

The economic pain caused by the new policy was felt well beyond the car import market, affecting hundreds of thousands of people and triggering mass protests throughout Russia, particularly in its Far East region, from late 2008 until the spring of 2010. The first protest actions started spontaneously. On December 14, 2008, hundreds of people took to the streets in Vladivostok to appeal to regional and federal authorities on behalf of the Japanese car industry: “Almost 1500 people participated in the demonstration. We haven’t seen such an abundance of people in a long time. The Vladivostok folks not only supported the All-Russian action, but became its main driving force” (Zagoruyko 2008).

Other regions besides the Far East that relied on the import used-car market were also harshly affected by the new policy. The same day, parallel demonstrations occurred in many cities across Siberia and the Urals (Drom.ru 2008), and this unrest spread all the way to Moscow and Kaliningrad, near the Polish border. In Vladivostok, the protests were poorly coordinated but managed to avoid any violence and vandalism. A massive collection of signatures “in defense of the right steering wheel” resulted in large-scale public participation in the protests. While the first demonstrations focused strictly on economic grievances, the claims were soon reformulated in political terms: the new—and this time unauthorized—gatherings on December 20 and 21, 2008, were accompanied with slogans demanding the dismissal of local authorities and even the impeachment of the president of Russia.13 The political “smell” of events, however, allowed the federal authorities to react with force: on December 21 an unauthorized gathering was dispersed with help of the Special Police Force brought in from the Moscow region (according to media sources, local police refused to act against the protestors since, as local residents, they supported them). Up to two hundred participants were wounded. Officially, all protests that were related to car imports were interpreted as riots organized by destructive forces and financed from abroad. In January 2009, the Analytical Department of the State Duma sought to identify foreign agitators and its think tanks denounced the protests as part of an attempt at another “color revolution” (as in the Ukraine
and Georgia) aimed at separating the Far East from the Russian Federation (State Duma 2009).

To respond to the economic complaints of protesters, federal authorities have undertaken several measures. First, a special regulation was introduced to provide state compensation for transporting cars by train produced in the European part of the country. Second, in the following years, a new car assembly plant was built in Vladivostok; since 2010, it produces the Korean car SsangYong, the Japanese Mazda and Toyota, and the Russian truck UAZ (RIA Novosti 2014).

However, it would be wrong to analyze this case exclusively in terms of protecting the national car industry. Since the middle of the 2000s, the federal government has increasingly focused on the development of the Far East region, which again was recognized as a place of strategic and economic importance. For instance, since the 1990s, Russian energy corporations have been investigating the potential of the oil and gas fields near Sakhalin Island, situated on the border between the Sea of Okhotsk and the Sea of Japan, only five hundred miles from Vladivostok. In 2008—the same year as the car customs clearance policy—Sakhalin Island became home to a wholly owned subsidiary of Gazprom and a new natural gas liquification plant; in 2013, Vladivostok also hosted a daughter company of Gazprom.

The decision to hold the 2012 APEC summit in Vladivostok, made as early as September 2007, exemplifies the longer-term federal strategy regarding the Far East region. This resolution set the stage for the most important reorganization of the city in its entire history and attracted significant federal funds to the region. Importantly, these projects responded to the urgent need of urban infrastructural development, thus making some of the local population support the federal government. Indeed, the large-scale highway development and the construction of bridges across the Golden Horn Bay and the Eastern Bosporus Strait have significantly improved transportation in the city, helping to connect the city center to relatively close but poorly accessible areas nearby.

The general plan of urban development included the construction of a new university campus on Russkiy Island, designed as a large-scale educational complex with stand-alone infrastructure. The new campus was intended to become home to the Federal University of the Far East, a prestigious new educational mega-institution, created as part of a reform carried out by the Russian Ministry of Education and Science since 2006.

The construction of a new campus was a way to redevelop a rundown area. Located in Peter the Great Bay in the Sea of Japan, some distance from
Vladivostok, Russkiy Island was the site of an important Soviet military base. Since then, it has been largely abandoned and isolated from the mainland. At the time of construction, only a ferry service existed between the island and the city, making it virtually isolated from urban life. Building a brand-new campus there necessitated, inter alia, the construction of a new bridge and the expansion of the urban infrastructure to accommodate it. It was also assumed that the relative distance between campus and city would further enable the development of the area as a coherent ensemble of educational and residential buildings.

However, as the budget allocations for this expensive university construction project were folded into the preparations for the APEC summit of 2012, its architecture and urban design were ultimately subordinated to the requirements of this mega-event. Unsurprisingly, this rendered the educational and research needs of the university campus relatively unimportant in comparison with the goal of creating a spectacular and prestigious showcase site for the international forum. Today, the new campus occupies a vast and scenic territory with spacious and externally impressive buildings; on the inside, however, oddities abound. In the interviews, we were told about non-working electrical outlets, stairs leading nowhere, classroom blackboards that cannot be erased, to name just a few examples of many serious infrastructure problems highlighted by our interlocutors. But most egregiously, it was only after the move to Russkiy Island that it became apparent that no public transportation routes to and from the island had been put in place, or even planned; however, a bus service was later provided.

The relocation of the university from the city to Russkiy Island took place in 2013–14, and remains a popular topic for our interlocutors, who often said that the physical remoteness of the new campus was an obstacle. On the one hand, it is now harder to attract industry professionals to part-time (and quasi-volunteer) teaching roles, as it takes up to an hour to drive or commute to Russkiy Island. On the other hand, students also feel themselves disadvantaged as the distance between campus and city limits their access to part-time jobs and internships that used to be available when the university was part of the urban fabric. While this may not be a problem in other professions, familiarity with industrial realities is a necessary part of the training of young IT graduates. Prominent industry representatives feel that the level of experience and training of FEFU IT graduates has significantly declined in recent years, along with the disengagement of the IT practitioners from teaching. Finally, this isolation of students from the IT labor market had the most devastating impact on small local IT companies, as they cannot afford
to attract “expensive” professionals, either from Vladivostok or other parts of Russia. Thus, Boris, the director of a small IT studio, complains:

Now that they moved the university to the island, locked all the students there, good luck hiring a student from the fourth or fifth year! . . . We cannot hire students because they do not commute to us. Hence, well, I think we lose very much of development potential, we have no way of updating staff, training them. Well, that’s all—and it turns out that they, too, are losing their opportunity since they do not have access to the experience, to the real market. (Boris, aged thirty-four)

However, not all are critical about the relocation of the university from the city to Russkiy Island. Some argue that early professionalization of programmers prevents students from deeply engaging with their studies, and hint at precarious jobs in Vladivostok’s IT market.

The topic of the university relocation appears to be particularly sensitive, as it merges with the painful experience of the federal university reform, which greatly disturbed the local IT community. First, the reform was accompanied by the assignment to all federal universities of so-called “top-priority research directions” (i.e., research emphasizing the specificities of their respective regions). For instance, while IT-related sciences were identified as “priorities” for many other federal universities, this was not the case for Vladivostok, which was prescribed to concentrate on “resources of the world ocean,” “energy resources and energy saving technologies,” “industry of nanosystems and nanomaterials,” “transport and logistics complex,” “cooperation of Russia and the Asian-Pacific Region,” and “biomedicine.”17 Federal funds were of course distributed accordingly. In fact, this has made the needs of the IT departments virtually invisible to the FEFU administrators who report on their progress as per government priorities.

Second, the institutional restructuring disrupted old educational traditions. In Vladivostok, the FEFU was created through a mechanical administrative merger of four institutions of higher education: the Far Eastern State University (FESU), the Far Eastern State Technical University (FESTU), the Pacific State University of Economics, and the Ussuriysk State Pedagogical Institute. Due to this restructuring, all former faculties (fakul’tet) from the four distinct (though now decapitated) local universities have been transformed—through a mechanically administrative “mix-and-match” reordering—into big newly established administrative units called “schools.”18 This translated the traditional three-tiered structure of “university–faculty–department” (kafedra) inherited from the Soviet era into a two-level structure of “school
(consisting of several former faculties)—department.” In practice, this abolished the old kafedras, which were the main research and innovation incubators of the universities and consisted of ten to fifteen faculty members who worked closely together. In their place, large academic units—“schools” with fifty to a hundred faculty members—were created and incorporated faculty members from previously independent institutions. Our interlocutors describe new “schools” as amorphous collectives functioning without a coherent educational program and clear research agenda, largely because their faculty members come from different universities with various teaching traditions and priorities. Unsurprisingly, the restructuring also affected academic hierarchies. For example, Aleksandr Klenin has not received any administrative status within the new system, because he does not hold an academic degree. Nevertheless, he is still one of the main people cited when local IT experts speak about the university.

Finally, the reform was carried out hastily and without consulting the local scientific community, which naturally provoked sharp criticism. For instance, contrary to university practice dating back to the tsars, all new academic and administrative positions were filled without an open competition. While many newly created academic vacancies were given to professors who had taught at the old local universities, all of the top management positions were given to administrators appointed from the federal center, from Moscow. To placate local academic elites, the former rectors were offered “emeritus” status or became vice-rectors. One of the results was a considerable expansion of the academic bureaucracy. This provoked much criticism, and the new administrative system was ridiculed as kormleniye (which literally means “feeding”). This alludes to the medieval Muscovite practice of taxing towns and rural districts to support and “feed” the government officials who ruled them, often Muscovite nobles.

Thus, the second half of the 2000s was marked by an increased presence of the federal government, whose authority had previously been felt only distantly in the Far East. By suppressing the car protests and directing funds to the region, the state demonstrated its power as the master who came to “restore order.” In other words, the development program for Primorye can be described as an imposed deal where, at the price of the loss of political autonomy, urgently needed infrastructural renovations were undertaken (compare with mega-events in Kazan’ described in Kontareva, this volume). But for the local IT community, the cost was high. First, the whole business landscape was dramatically disrupted, since many of the companies dependent on the Japanese car trade were shut down. Moreover, 2008 was the year
of global economic crises, which affected companies relying on foreign capital. For instance, in that year Motorola closed down projects with Rhonda, thus making more than two hundred highly qualified professionals unemployed. All this resulted in yet another wave of migration and emigration and restructured the local IT community considerably. One local expert noted that many of those who did not survive the year 2009 left for Cisco, Google, Samsung Electronics, Texas Instruments, and other international companies.

Second, the effects of the federal reform on the existing system of IT professional training in Vladivostok proved controversial. What emerged from our interviews was that the so-called “optimization” of regional educational institutions has so far produced the opposite result from its intended effect. The reforms were aimed at strengthening the ties between federal universities and the real economies of the region; though, in the case of Vladivostok’s IT, they have in fact damaged the ecosystem that professionals and enthusiasts had been developing for the last ten to fifteen years.

VLADIVOSTOK IT MOBILIZATION

We can, however, find a silver lining: life under permanent crises rendered the local IT community relatively flexible and resistant to risks. While the community reliant on trading old cars could not survive after the introduction of the 2008 policy and was partly absorbed by the new car-assembly industry, the biggest IT business players proved to be able to adapt to a new economic and political situation. Moreover, in some cases they did so with a quite independent political agenda. For instance, FarPost openly positions itself as an independent information portal, and discusses sensitive corruption-related stories about the new federal university and local politicians and bureaucrats quite openly and freely. Others took advantage of the situation: Kama Games, which emerged in 2008–9, clearly benefited from hundreds of unemployed highly qualified programmers who remained in Vladivostok. Finally, many of the less ambitious professionals were happy to occupy apparently stable jobs in newly opened firms working on the maintenance of electronic government and public IT products.

Moreover, the problems caused by the federal university reform and the general dissatisfaction with the current state of affairs pushed the IT business stakeholders to self-organize and engage in regional politics. For instance, in 2014 a group of directors from Vladivostok’s most prominent IT companies decided to create the Association of the Technology Industry of the Asian-Pacific Region (ATEIAPR) to help increase the visibility of Far Eastern
IT in both federal and foreign arenas. The association strives to develop the IT sector in the Primorskiy Kray, and in the whole Far East, as well as to strengthen ties between IT companies and universities, especially the FEFU. For the first time, business actors have focused their attention on the FEFU and publicly expressed their readiness to participate in IT training. As Dmitriy Alekseyev explains:

In principle, you know, it is the first time we succeeded in creating a kind of IT Association in Vladivostok. . . . It always used to break at the moment when someone said, “Well, like, why do we need it?” Right now everyone has agreed on the fact that this is made in order to make somehow the FEFU still pay attention to IT professions. It would be great to have a separate IT school, huh? To somehow take a focused and systematic approach to training IT professionals. The thing is, the FEFU is now saying that they do not have IT in the list of priorities, hence they do not need it. Well, [now] everyone feels it. . . . This fact [forced us to say for the first time in] the twenty years I have been here doing computer business, let us unite for the sake of some idea.

In the fall of 2015, the Far Eastern Federal University officially refused to support the ACM ICPC championship competition, claiming lack of funds. After a series of negotiations and organizational efforts by engaged individuals, the competition took place with the help of local businesses and the Association. Once again, Vladivostok’s IT community demonstrated its social commitment and its capacity to resist top-down decisions disrupting the local IT ecology. Unfortunately, such initiatives are rarely supported by federal representatives. As Dmitriy Alekseyev commented on Facebook on November 15, 2015:

Enthusiasts are the backbone of many things in Russia. Probably it should be this way, but at the same time mechanisms that support those initiatives and make them part of the system are needed. Unfortunately, this rarely happens here. And the example with the sport programming championship comes from the same series. This is a very good championship giving a wonderful experience with algorithm problem solving, and besides—in a team! This is a real programmer’s incubator. In addition, the school part [of the championship] is a perfect way to attract and prepare children for university, and student participation is an [important] element of the educational process. You may think that FEFU would be very interested in that process? No, this year the university outright refused to finance

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this championship. The two billion [rubles] for a campus—this is a must. One hundred for the championship—no way. That’s why I take my hat off to the enthusiasm of Nadezhda Klenina and Alexander Klenin and their team who developed the competition project that has helped to nurture hundreds of Far-Eastern programmers for 17 years already. They are great people and I am proud to stand side-by-side with them and do my best to help in their excellent work.

The example of the IT community in Vladivostok demonstrates that to develop their businesses, Vladivostok’s IT leaders need to develop a consensus on regional politics of knowledge and use that consensus to come to terms with the federal government. As happened so often before in Russian history—from the Russian Empire to the Soviet period—Moscow appeared to be inattentive to local developments, while simultaneously asserting itself as the authority best equipped to understand and address them. This attitude was emblematic of the recent federal university reform, where the central government cast itself as the sole decision maker able to identify regional strategic needs and goals, even when the regions concerned may be more than five thousand miles away. In the era of a global knowledge economy, this logic seems outdated and shortsighted.

The case of Vladivostok shows, however, that qualified, active entrepreneurial actors may be able to create local innovation ecology with specific industry-university collaborations even under conditions of a seemingly permanent social and economic crisis. Yet, this time-consuming and complex process can be easily damaged by authoritarian policy decisions that, by disregarding the regional context, end up disrupting the local IT ecology.

Apparently, the strategy of communication with the long-term federal agenda turned out to be beneficial for Vladivostok’s IT, at least in some cases. On April 1, 2015, Vladivostok opened the Far East representative office of the Skolkovo Foundation, which aims at developing innovations and high-tech entrepreneurship in Russia (for more details on Skolkovo, see Simonova, this volume). During the first ten months, thirty IT companies from Vladivostok became “Skolkovo” residents, thus claiming a presence for an unexpectedly large IT pool in the Far East. Today, however, it is still too early to evaluate the extent to which this kind of cooperation with federal stakeholders will benefit the local ecology of several independent startups and the whole ecosystem of IT knowledge in Primorye. The risk remains that while the Association was mobilized for the sake of education in the
region, it might become a kind of Moscow neoliberal offspring, running in and beyond the local community.

NOTES

This chapter is mostly based on empirical data—interviews, publications, and observations collected by Alexandra Masalskaya in Vladivostok in November 2014—secondary literature, and online publications. In total, sixteen biographical interviews were conducted. The first interviews were conducted thanks to contacts established remotely before arriving in Vladivostok. We thank Daria Savchenko who shared her contacts with professionals from the IT industry. Some of the subjects were discovered thanks to the digital analysis of Web of Science publications: two of them working at research institutes of the Russian Academy of Science agreed to participate in the research and be interviewed. In other cases, we primarily relied on “snowball sampling.” Also, several contacts were established via the Facebook communities of Vladivostok residents. We would like to thank Paul R. Josephson, Mikhail Sokolov, and Yuri Takhteyev for their comments on the preliminary draft of this chapter.

1. According to data provided by the Russian Ministry of Digital Development, Communications and Mass Media, in 2014 the Far Eastern region (Primorskiy Kray) hosted 45 big and medium and 346 small IT companies (Ministry of Digital Development 2014). Experts estimate the number of IT professionals in the region to be around two thousand (PrimaMedia 2014). The city of Vladivostok is host to a population of a little more than 600,000 residents. Following our interlocutors, we consider that the number of active members of the IT community roughly corresponds to the number of the participants of the Vladivostok Developers Sabbath conference, an informal, though important, annual professional gathering. In 2014, the year of our fieldwork research, this conference brought together from six hundred to seven hundred individuals. About one hundred among them are considered to be top-level experts.

2. All interviews with IT workers were conducted in Russian and translated by the authors.

3. In 1939, the department included chemical and geological institutes, soil-botanic and zoological sectors, laboratories of fresh- and seawater hydrobiology, mountain-forest and teleseismic stations, natural reserves, a library, and a publishing house (Far Eastern Branch 2017).

4. Although the official dates of funding of these institutes point to the late 1980s, their institutional histories in the Far East can be clearly traced back to the 1970s.

6. The increase in the incidence of tuberculosis has been clearly observed since the beginning of the 2000s; from 2005 to 2009, it exceeded the average rate for Russia by more than 2.5 times. The situation then stabilized and improved in the following years (Abbasova 2014)—most probably, thanks to more medical care and a restructuring of urban traffic and highways.

7. During the first year, this forum ran under the name Avto.vl.ru.

8. The applicant’s guide included information on enrollment criteria and procedures, student social services, pictures of student residences, and so on.

9. This game attracted 47 million players.

10. The official website of the center is http://robocenter.org/.

11. On the crucial role of entrepreneurs for the formation of technological clusters, see Francis, Bercovitz, and Feldman 2005. They argue that entrepreneurs exhibit flexibility and a high capacity to adapt to crises and grasp newly opened opportunities.

12. To a much lesser extent, the same policy affected the import of new vehicles.

13. Anastasia Zagoruiko, a journalist and one of the protest activists, later recalled that “this protest was largely supported by ordinary people, whose interests were very seriously touched upon. Nobody was going to make politics, and on December 14th there were no political parties among the organizers. They came up later, because it was a shame to miss such an opportunity to gain points for themselves” (RK25.ru Shturman Primorya 2013).

14. This measure, however, did not help much. According to 2018 statistics, the Far East residents remained faithful to Japanese cars: three first lines out of five top bestsellers are occupied by different “Toyota” models (Autostat 2018).

15. The reform was designed in response to multiple critics of the level of higher education in Russian regions. The new “federal universities” were thought to become a network of top-level regional mega-institutions embracing the best local educational centers funded through “federal districts” (a new type of territorial and administrative unit introduced in 2000 by President Vladimir Putin and governed by his appointed officials. This new arrangement replaced the locally elected governors who had previously held authority in the regions). The FEFU was founded in 2009–10 and became the third federal university after the Siberian Federal University (in Krasnoyarsk—two thousand miles away from Vladivostok) and the Southern Federal University (in Rostov-on-Don and Taganrog—more than 5,500 miles from Vladivostok). In the following years, federal universities expanded to cover the Ural and Arctic regions, North Caucasus, North East (Yakutiya), Kazan, and Crimea.

16. According to the local Department of Information and Telecommunications, in 2014 there were forty-five large and medium-sized IT businesses and 346 small enterprises in the region (Ministry of Digital Development 2014).

17. Technically, the fifteen-year university road map was developed within the walls of the university. However, our interlocutors emphasized that it was realized by bureaucrats coming from Moscow who have not really consulted with local experts. Therefore, in many respects, the current university agenda corresponds to Moscow reformers’ scenarios rather than to local educational traditions.
18. In its traditional form, a \textit{fakul'tet} was mainly an administrative unit responsible for student recruiting, educational curriculum, and hosting several “departments” (\textit{kafedra}), which were, in turn, small but highly specialized units responsible for problem-oriented teaching and research, and relatively free of administrative work. The administrative responsibilities were primarily imposed on the faculty's staff. However, under the new system these administrative responsibilities have been redistributed among all faculty members, while specialization and research are now subordinated within overgrown new “departments.”

19. In the Soviet system of education, all academic positions (including the rector and deans) were elective and, to some extent, guaranteed democratic and meritocratic principles. All vacancy competitions were open and had to be publicly announced in advance and published in local newspapers.

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