The Russian economy was in constant turmoil during the 1990s. Following its stabilization in the early 2000s, the new Russian leadership placed a high priority on developing an innovative economy and domestic high-tech industry that could supersede the previous one, based on extractive industries and natural resources. Since the 2008 announcement by former Russian president Dmitry Medvedev of a major initiative to modernize the Russian economy, high-tech and information technologies have been a priority for federal and local authorities alike, leading to policies for the development of innovative clusters, special economic zones (SEZs), and federal projects for the development of technoparks across the country. The Republic of Tatarstan and its capital Kazan were selected to become one of these innovative centers.

Located in Southwest Russia, only a two-hour flight from Moscow, Kazan has aspired to be the premiere Russian center for innovation. It is already one of the leading educational and research centers in the Russian Federation, with a special emphasis on mathematics and computer science. The city is home to thirty-five institutions of higher education, including a federal university and other public and private institutions (Ministry of Science and Education 2015), which provide IT training at both undergraduate and graduate levels. While being one of the oldest cities in Russia, with more than a thousand years of history, Kazan is now promoted as “the capital of the Russian IT industry”—a place where federal and local authorities are working hard at establishing an “ecology of innovation.” Since the early 2000s, Kazan politicians have been investing in infrastructure, with several technoparks, industrial zones, new universities, and an ambitious new project—Innopolis—a university-centered city for IT specialists.
In addition to local funding, the republic is drawing on private investors and on federally funded programs.

Tatarstan was one of a few places in the country chosen by the Russian government to participate in the federal technopark program. Since 2007, the state has developed technoparks to support innovation and attract highly skilled migration to the region. Once drafted, the policy of infrastructure development had to be implemented in specific regional settings, but not all of the regions selected to take part in the federal program establishing innovation hubs were successful. In 2015, the National Audit Office discovered that some local programs were riddled with corruption, resulting in the inappropriate expenditure of federal funds. At best, technoparks were operating as ordinary business centers. At worst, local authorities had not even begun constructing the necessary infrastructure (Kustikova and Zaslavskiy 2015). Compared to these regions, Tatarstan is a success. Virtually all of the planned constructions and infrastructure were completed and official federal ratings now rank Kazan as the third most innovative region after Moscow and Saint Petersburg (Gohberg 2014).1

Innovation studies literature highlights several factors contributing to regional development. Some emphasize the role of military-related R&D (Sturgeon 2000) or other state interventions in fostering and supporting the most promising projects and technologies within a given region (Breznitz 2007). Others focus on the role of venture capitalists (Florida and Kenney 1988) or the rise of an R&D sector that leads to long-term economic growth (Lundvall 1992; Lundvall et al. 2002; Mowery and Rosenberg 1991; Nelson 1993; Rosenberg 1983). Still others focus on sustainable interactions between the state, industry, and universities (Etzkowitz 2008; Etzkowitz and Leydesdorff 2000; Kenney and Mowery 2014). Some of the extensive literature on specific regions draws attention to the social dimension of knowledge production and implementation within regional innovation systems (Asheim 1996, 2007; Asheim, Lawton Smith, and Oughton 2011; Doloreux 2002; Saxenian 1994). These works reveal the cultural, historical, and social contexts that underlie economic development, and that give every case a unique set of properties. The case of Kazan is particularly intriguing because its success does not seem to be reducible to available models.

Different logics stand behind the formation of this ecology, illustrating the interplay between local and federal politics. Unlike other innovative enclaves described in this book (especially in Simonova’s chapter), this specific “innovation ecology” has matured not as a grassroots initiative, but as a top-down policy formulated and executed by politicians in Kazan and Moscow—
politicians whose interests came into alignment through this policy. Similar to Vladivostok (Masalskaya and Vasilyeva, this volume), the case of Kazan illustrates the intention of the Russian state to control peripheral regions, especially politically volatile ones like Tatarstan, and reinforce the federal presence there. By funding the development of an IT hub in the Republic of Tatarstan, Moscow has been clearly asserting the presence of the centralized state in an autonomous region. At the same time, local authorities can deploy strong arguments to promote a region that has a proven track record in innovation-related projects. The ways the Republic of Tatarstan has been pursuing federal investments show the importance of a certain kind of “regional branding”—a game of policy visions and mediatic representations aimed at conveying the sense that innovation is “happening” in and around Kazan, where new buildings, technoparks, and infrastructure come together to index the emergence of an “innovative region”—an image that can then be sold as a national template for successful development.

CENTER-PERIPHERY RELATIONS AND THE POLITICAL FRAMING OF INNOVATIONS

The Republic of Tatarstan is one of the country’s leading industrial regions in both petrochemistry and mechanical engineering, contributing to the country’s economy through gas and oil extraction. With a few major companies like OAO Tatneft, OAO Nizhnekamskneftekhim, and Kazan-Orgsintez OJSC, the local petrochemical cluster is now represented by over five hundred small and mid-sized enterprises. Also, Tatarstan has the second-largest oil deposit in Russia, which produces thirty-two million tons of oil annually, making the republic a very valuable asset of the national economy. This has framed the relations between Moscow and Tatarstan, involving both investments and federal control over a strategic region.

During the chaotic period after the breakup of the Soviet Union, the republic was filled with separatist sentiments fueled by cultural and economic issues: as the majority population of the republic consists of ethnic Tatars and Muslims, the key separatist argument was that the region had a culture, language, religion, and traditions of its own. In addition to this unique regional identity, Tatarstan has always had a strong political elite, which could convert this popular identity into carefully chosen benefits, especially under circumstances where the breakup of the Union was in the air. As the result of informal arrangements with Moscow, Tatarstan retained its status of an ethnic republic within the Russian Federation, and was granted a special tax
system designed to keep most of the income from natural resources within the republic from 1994 to 2000. In exchange for these privileges, local elites tacitly agreed to support whichever candidate Moscow favored in the local presidential elections.

The situation, however, has become more convoluted in the last decade, largely due to Vladimir Putin’s attempt to reimpose a vertical power structure within the Russian Federation, which led to reconsidering the practice of making special informal arrangements between Moscow and the republics with strong ethnic identities. The independent status of ethnic republics was thus reframed, and many of Kazan’s special privileges were rescinded (Nozhenko and Belokurova 2010). Experts now say that, as during the Soviet era, all incomes from gas and oil production in Tatarstan flow again to Moscow, depriving the republic of resources that many feel belong to it.

Moscow and Tatarstan, however, have found other areas of happier collaboration. Federal funds now come in the form of support of large international events that Tatarstan and Kazan in particular are hosting. Participation in federally supported initiatives is also one way of channeling federal funds back to the republic in an effort to assuage local feelings. Kazan’s Millennial Celebrations in 2005 and then the Universiada, a major international sporting event held in 2013, necessitated large-scale investments that transformed the city virtually overnight. Kazan’s ability to quickly put federal funding to work was further demonstrated by its readiness to host several other large international events, such as the 2015 FINA World Championship (an international swimming competition), and the FIFA World Cup in 2018. These “mega-events,” however, are important not just because of the visibility they provide but also because they exemplify a specific long-term strategy aimed at attracting federal and international investments in order to build or improve local infrastructure.

Each new event is associated with major construction projects that create a substantial number of new jobs and opportunities for local workers. For example, hosting the Universiada led to the construction of a whole new residential zone, initially intended as accommodation for the visiting athletes but subsequently repurposed as a new campus for the Kazan Federal University and the IT Institute, the former claiming to be the largest of the newly established federal university campuses in Russia. In addition, substantial funds were invested in the building, repair, and renovation of roads, highway interchanges, an airport, and hospitals. After the event, several Russian newspapers reported that the amount of money spent on these improvements was twenty times higher than that which was spent on the event itself. Participation in
a variety of federal programs brings investments into urban development, which explains why Kazan invites new initiatives on a continuing basis. Each of these initiatives burnishes the Kazan “brand,” and every new project contributes different forms of capital to the region—not only of economic value but also social and cultural capital, which is then mobilized to attract yet other projects and events.

To impose control over peripheral and politically volatile regions, Moscow has a long history of providing them with generous funding for local development projects. Scholars have identified Tatarstan, Bashkortostan, and Chechnya as the most vivid examples of this kind of “support” (Bulanin and Shcherbak 2005; Starodubtsev 2009). Tatarstan not only receives the funds necessary to host these events, but is also given federal loans to cover the local share of expenditures. Such federal funding is particularly advantageous for the state, since it invests not only in regional high tech but also in the loyalty of local elites and decision makers. These are the people who largely control local politics and can help get Moscow’s candidates elected when “elections” occur (Matsuzato 2001).

The “mega-event” strategy seems to apply well to the attempt to build up Tatarstan as an innovative region. The focus on high tech and the promotion of Kazan as an innovative region is mainly associated with two Tatarstan politicians: Rustam Minnikhanov and Nikoley Nikiforov. The story of Kazan as a high-tech region originates from their successful implementation of e-government projects within Tatarstan’s local administration. The federal government had singled out e-government as the first necessary step to make Russia both “modern” and “democratic,” making the relationships between the state and its citizens more transparent and effective (Administration 2015). Rustam Minnikhanov, the former prime minister and current president of the Republic of Tatarstan, announced as early as 2005 that all civil servants needed sufficient competence in information technologies so as to use electronic government platforms and e-document flow (Ismagilova 2010). Nikiforov, a Kazan State University IT graduate, became the official advisor to Minnikhanov. His job was to focus specifically on information technologies and he was among the initiators of the e-government program, which involved connecting municipal services and institutions, and digitizing their document flows.

The e-government project had several important consequences for the region. That Kazan’s administration had managed to turn digital long before the rest of the country helped the city present itself as a prototype for IT innovation. Furthermore, the strong demand for IT technologies and skills
generated by the e-government initiative greatly enlivened the local technological market, providing incentives for IT companies focused on the implementation of state orders and electronic data protection to emerge (Kontareva 2015). As for Nikiforov, as a reward for his work, he was promoted to the position of Tatarstan minister of telecommunications.

This new emphasis on large high-tech projects supported by federal investments aligned with the interests of local politicians, who channeled this momentum toward greater investments in local higher education and human capital. Thanks to the collaboration between Nikiforov and Minnikhanov, the federal government has subsequently supported several other initiatives in Tatarstan, mostly involving large-scale constructions. According to the official web page of the Investment and Venture Fund of the Republic of Tatarstan, the region can now claim to be Russia’s largest special economic zone, with at least four new industrial parks, a new technopolis called Himgrad (an acronym for “chemistry city”), and fourteen new technoparks. The special relationship between the republic and Moscow is thus key to the promotion of Tatarstan as the place where innovation thrives.

Nikiforov was not the sole member of the regional government advocating for the development of an IT industry, but his story became legendary among young local IT specialists. Again and again in my interviews with local programmers, Nikiforov surfaced within their narratives of the local professional community. Many pride themselves on having graduated from the same university he attended, some saying that Nikiforov was a “rising star” since his days in primary school. They also recount how even in middle school he was recognized for his talents and ability to organize IT projects among his classmates. They see him as personally responsible for projects such as the IT parks in Kazan and the city of Naberezhnye Chelny, the local IT lyceum, and the IT department at Kazan Federal University. His association with these projects garnered his appointment to the post of minister of telecom and mass communications of the Russian Federation in 2012. At only thirty, he became the youngest minister in Russian history and his promotion was exploited in the effort to craft Kazan’s local brand.

Thus local IT projects supported by Moscow have a strong political dimension. In this sense, innovation-ecology building in Kazan resembles investments into the other republics’ projects in Russia, such as in Dagestan and Chechnya—places where separatism is still considered an issue and Moscow feels the need to exert control. It is no coincidence that right after the annexation of Crimea, authorities in Moscow proposed establishing an IT cluster there as well, holding out hope of creating the Russian analogue of
Silicon Valley in that region. The citizens of Kazan are only the indirect beneficiaries of these initiatives, in the form of better highways and other urban infrastructure. The real targets of this largesse are the authorities, whose loyalty is purchased through the sponsorship of large, visible, and prestigious projects. One substantial downside for the republic is its debt obligation to the federal government that it has to assume as part of these projects, giving Moscow a greater degree of control over local affairs. Yet, whatever the political motivations of Moscow may ultimately be, the fact that Tatarstan is a relatively independent republic has contributed to the success of these federal programs. It is clear that the achievements in Kazan largely depend on the interests of local and regional politicians in the development of an IT sector. At the same time, because the region does not feature the same convoluted multilayered hierarchical relations that characterize the administration of other regions, Kazan might actually be a promising place to implement new IT initiatives.

BRANDING KAZAN: A CITY ON DISPLAY

When I was planning my first trip to Kazan to interview local IT specialists, my colleagues—fellow sociologists who had recently returned from their own fieldtrips in the region—were not impressed with what they had seen in Kazan. They assured me that the city center was not a real downtown area but an assemblage of streets covered with mud, flooded, without sidewalks, and with piles of bricks randomly dumped here and there. The city, I was often told, is reminiscent of a typical Russian village where something is always under construction, where all needed materials are collected on-site but without any visible sign that something is actually being built.

Arriving there a few months later with this picture in mind, I was surprised by what I found. The city center with its old traditional wooden houses was completely restored and Baumana Street (the central pedestrian zone) could easily have been located in any European city, with gift shops and cafés full of tourists. And, as it turns out, the Kazan administration was able to undertake these drastic upgrades and transform the place into a city that is attractive not only to Russian visitors but also international tourists in a surprisingly short period of time. Because Tatarstan is not the only ethnic republic in Russia dependent on federal support, it has to compete with other regions to receive funding from the federal government. Though it has been suggested that “success in competing for federal funds is largely politicized and depends primarily on the ability of local politicians to negotiate and bargain
with Moscow” (Kinossian 2006, 334), the promotion of Tatarstan remains crucial for the local economy by showcasing the favorable condition of the region and reassuring Moscow that Tatarstan is worth investing in.

In addition to the federal government, the other targets of regional branding are the high-tech specialists whom the local authorities are trying to attract. Since the collapse of the Soviet Union, the migration of highly skilled Russian specialists has been a worrisome problem for the government. Thousands of IT specialists left the country, likely never to return. Investments into branding, material infrastructure, and renovation in Kazan are meant to prevent or at least decrease the level of emigration, creating within the country the same kinds of opportunities that exist abroad. Kazan is a relatively small city in size and population, having only a tenth of Moscow’s population. Larger cities like Moscow or Saint Petersburg are certain to attract the best human resources and skills, but a peripheral city like Kazan has historically lacked this kind of magnetism. However, the way the Kazan administration is currently marketing this place represents an aggressive effort not only to compete with these capital cities but to reproduce in the provinces the same conditions that exist there, and even rival those found abroad. This branding strategy turns Kazan’s weak points into strengths. Opposite to Moscow and Saint Petersburg, Kazan is presented as compact and convenient, with the business center and universities situated just steps away from each other. The streets of the city are relatively uncrowded and its light vehicular traffic produces little air pollution and few traffic jams. Many of these factors encourage locals to compare Kazan to Moscow, and by this comparison the region gains advantage: it is where locals want to live and not from where they wish to emigrate.

For a long time now Russian cities have been competing for recognition as the third capital of the country, after Moscow and Saint Petersburg. Kazan went further, and in 2009 officially trademarked several logos such as “Russia’s third capital,” in both Russian and English. The location of Kazan in the Federal Volga District, as well as the local heritage of Tatar culture, provide an appealing combination of “East meets West” in Russia. Because of the Muslim culture, the city looks exotic to both Russian and foreign tourists. With the collapse of the ruble against the dollar and euro, international trips have become more expensive for Russian tourists, thereby increasing domestic over international tourism. The 2014 rating on TripAdvisor (the world’s largest travel site) helped Kazan become the third most visited city in Russia, after Saint Petersburg and Moscow.
Despite the fact that Kazan is situated away from the western centers of the country, it is trying to construct the image of an international or European city: a successful city, one that is able to host prestigious events, cosmopolitan, or at the very least international. Several times during my fieldtrips to Kazan I heard the city compared to European counterparts, and, truth be told, I also made this comparison. Policy makers and local citizens seem to share an understanding of what international means: according to the city’s branding, it is associated with specific architecture, better facilities, and a different lifestyle. A European city has a particular layout and typically a historical center, a set of museums—most likely a historical and modern art museum—pedestrian zones, and neat townhouses along narrow streets. For the general public, Kazan meets these requirements and gives the impression of an inviting and comfortable city, which exceeds your expectations of a place situated at the Russian periphery. “European” also means international, ecologically conscious, and culturally tolerant. Kazan’s location, traditions, and ethnicity mark it as a gateway between Western and Eastern cultures. Tatarstan’s population is a mix of ethnic Tatars and Russians, which means its culture is a mixture of Russian Orthodox and Muslim traditions. In 2002, Kazan was awarded the unesco Cities for Peace Prize for “creating bonds of citizenship” among a diverse cultural and ethnic population (unesco 2002). Most of the people with whom I had a chance to meet were proud of this special status as a city of tolerance. Tatar national cuisine, crafts, and souvenirs are everywhere evident with the strong regional culture now being repackaged into a new “European” brand: a local tea room that serves traditional cuisine (qıstıbı or öçpoçmaq—meat and potato pies) was presented to me as the “Tatar McDonald’s.”

Signage in the city is translated into Russian, Tatar, and English, and all downtown bus stops are announced in these three languages. While such English translations can be found in the capitals of Russia—Moscow and Saint Petersburg—they are not typical for Russian cities in general. Aspiring to emulate the high standards of a European city, Kazan is developing parks and recreational zones and is working to make the city’s facilities accessible for disabled persons. The new buildings, constructed for international events or as part of a new innovation ecology, have had a broad impact on city planning, as illustrated by the remaking of Peterburgskaya Street. Local residents say that until recently this area was a run-down district with wooden houses, most of which were torn down as part of the revitalization project. Several houses were kept as cultural heritage sites but most of the space was rebuilt,
first for Kazan’s Millenial Celebra
tions in 2005 and then for the Universiada in 2013. During my fieldtrips to this section of the city (fall 2013, spring and fall 2014) it was still under construction, this time to build a new and attractive high-tech business center. By 2013, several new hotels, a Sberbank building, the Ministry of Youth Affairs and Sport, a technopark called Idea, an Investment and Venture Fund headquarter, and an IT park had all been constructed. This section of the city now serves as a showcase for Kazan’s innovative potential, demonstrating that the city’s development is real and worth investing in.

Because of Tatarstan’s reliance on federal-sponsored projects, and the fact that Moscow prefers to invest in material infrastructures in the regions, massive urban development is the landmark of Tatarstan. The strategy of local authorities to focus on infrastructure of all kinds—from the city transportation system and hospitals to specialized high-tech parks—helps to invest in regional branding. Buildings are tangible and material indicators of money spent correctly; they demonstrate that local politicians are strong and decisive, and amplify high expectations about innovations to emerge, once the infrastructure is established.

INFRASTRUCTURING AN IT ECOLOGY

Kazan’s strategy to create an ecology of innovation primarily relies on large construction projects, like the IT park completed in 2009, housed in an impressive five-story building sheathed in glass. At the entrance is a public space that provides free Wi-Fi and free computer access as well as a coffee room. Daylight is abundant, creating a clear and transparent environment that is perhaps a visual metaphor for the “mood” of the work that takes place here. Many of my interviews with local IT specialists took place in the IT park, and the business incubators I visited there have an open-plan layout that encourages residents to interact and flexibly use the space as they see fit. The rest of the building is reserved for the office space of IT park residents, software developers, and tech entrepreneurs. As one of the city’s most modern buildings, the space is also extensively used for official events and receptions held for visiting delegations.

Several other new technoparks in Tatarstan—such as the IT park in Naberezhnye Chelny or the Navigator Campus in Kazan—are built in the same fashion. Situated on Peterburgskaya Street, the IT park is close to the local universities, which makes it convenient for students to attend presentations or conferences. The other IT park, in Naberezhnye Chelny, was established
in 2012 and also serves as a gathering place for the local IT community, with its business incubator that attracts tech projects from nearby regions.

Situated forty kilometers from Kazan, Innopolis—the newest city in Russia dedicated to high-tech industries—was built in just three years. A leading Singapore architect, Liu Thai Ker, was invited to plan the city. The example of Singapore, famous for its rapid economic growth based on high-tech industries, is often referenced in the discourse of local authorities in Kazan. Tatarstan wants not only to emulate the economic success of this Asian nation but to start this process of emulation at the very beginning, with the foundation: city planning. Innopolis was officially opened in June 2015 and is just beginning to function fully. It now includes a cutting-edge research university, a special economic zone for IT companies, as well as a residential zone. Innopolis seeks to bring together in one location all leading regional IT companies by providing new research facilities and sponsoring interesting and intellectually challenging projects. The city’s image is very much one of newness and innovation, which differs substantially from a typical Russian city. It is designed to promote the lifestyle of an emergent technological middle class, enjoying high salaries and access to modern amenities. It offers a revolutionary organization of urban space, with townhouses, bike paths, and an eco-friendly environment. However, at present the city plan remains more a layout than a fully functional city. All the new spaces still wait to be inhabited.

By offering new workspace organization and introducing new living standards, local decision makers are hoping to attract high-skilled specialists. As a local expert explains:

[The] IT park is a very good project. It is certainly not cheap but it already pays off; it is already profitable and at the same time it has managed to provide a certain beautiful image related to a particular profession, in which Tatarstan invests, want[ing] this industry to develop and bloom here, and has provided the labor conditions where people don’t feel worse than somewhere else.²

The IT park and the city of Innopolis have been designed to create a “beautiful picture,” the image of a high-tech utopia that actually works. They symbolize the commitment of local authorities to invest, develop, and support the local tech industry—something that an old or repurposed architecture cannot convey. Commenting on his IT office in an older building, a local expert suggested that even though it was located in the city center and near Kazan Federal University, it was nonetheless historical, of prerevolutionary design, and therefore unable to project the right image:
This is a good building, it is reliable, everything seems OK with sanitary equipment, but nevertheless it is a usual one. And no wonder that the slogan of the IT park is “think materially.” They managed to implement this vector toward attracting young people to IT in Tatarstan into something material. And young people really rushed. They really work there, there are good conditions, there is parking for lots of bicycles, and in this respect everything is fine.

Clearly, this branding appeals to the younger generation of high-tech specialists in Russia who are in their late twenties or early thirties. They were raised in typical Russian cities that bear the architectural heritage both of prerevolutionary and Soviet times. Despite the fact that today these cities are constructing new shopping malls, cafés, and parks, they were built in another time and were designed to fulfill the functions of another era. A good example of this kind of city is the nearby Naberezhnye Chelny, built in the 1960s to house workers for the KAMAZ truck plant. It is a vast complex of apartment blocks laid out along the banks of the Kama River. For its time, the sophisticated architectural plan of a neat industrial city was probably functional, but today it looks and feels very outdated. As a visitor one is confronted by endless rows of identical buildings and today—as a result of the increased vehicular traffic it must now absorb—the city is difficult to navigate. Cities like this have little appeal for young tech specialists; instead, the new generation favors contemporary architectural and urban design that accommodates a twenty-first-century lifestyle. To meet these expectations, Innopolis is styled as a city of the future, keeping up with the times and the latest technologies. Its futuristic orientation is what makes this project look promising: new infrastructure brings new expectations. For instance, the project manager of a local venture company in Kazan says:

There is going to be a golf [course], you can also ride a bike there, and you can do a lot of things. It is so cool, the project is very ambitious. And every time I tell my friends about it, it is very exciting, because it is so fantastic. And you would want the first stage of development to be completed and the IT crowd to settle there.

Others point out that Innopolis is located in one of the most picturesque places in the region, comparing it with a garden city, where everyone can even grow their own fruits and vegetables. In sum, it is described as the perfect choice for a specialist who wishes to stay in Kazan:
You cannot imagine anything better. And even if we speak of Russia in general, there have been no precedents so far which can be comparable with Innopolis. Only Skolkovo, but Skolkovo comes up very short in comparison to this suburban dream city.

Based on these expectations, Innopolis has put an emphasis on what high-tech specialists are looking for when they migrate, and what Kazan is ready to offer. However, some people feel that this newly constructed reality creates a strange impression, that of an artificial formation disorientingly distinct from the typical social, cultural, and urban Russian context. A recent posting (Polygaeva 2015) on The Village (a popular Russian news website) presents Innopolis as an alien, “sterile” reality. In addition to that, the remote location of Innopolis and its incomplete social infrastructure raise serious doubts among specialists, who are reluctant to relocate and inhabit this new space. At this moment Innopolis functions as a university campus, rather than an IT city. In view of this kind of reaction, Kazan may yet have a way to go if it wishes to make its brand acceptable and attractive to the larger public.

Technological entrepreneurship is also connected to these promises of a future replete with better living standards. Compared to other types of entrepreneurship, high-tech business has positive connotations in Russian culture, largely because in this case the entrepreneur sells his knowledge and talents rather than goods or services. During the Soviet era, entrepreneurship was prohibited, although the gray and black markets thrived; then with the collapse of the Soviet Union, “buying and selling goods” became widespread as people struggled to survive financially. Yet even though it was now a legal activity and broadly practiced, it still lacked social respectability. Today, these attitudes persist, and they work to the advantage of IT entrepreneurship, which is perceived as a purer form of initiative free of the taint of selling “things” for profit. Information technology entrepreneurship has other attractive features as well. It is a relatively inexpensive field to enter, since it does not require substantial investments in material infrastructure. In some cases, one person and a laptop suffice. The infrastructure being built in Kazan claims to provide opportunities for just this kind of initiative: that is to say, if you want to start your own tech business, IT parks, tech zones, and industrial parks are ready to support your aspirations. The IT parks in Kazan and Naberezhnye Chelny are experiencing a rush of startuppers applying for business-incubator spots in the hopes of becoming the next new tech star.
As a result, what one sees is local infrastructure actively responding in an attempt to offer a wide range of programs that can sustain the ambitions found in all age groups; for instance, the program “Junior Startup” is organized specifically for children, teaching them how to go about organizing their own startup company. As for the promotion of technological competences, IT parks host Olympiads and computer science competitions. The main purpose of these projects is to attract the local community of all ages into the arena of technological business, assuring them that no special skills are required—just a bright idea and high motivation. One of the IT park managers I interviewed explained that participants can learn by doing, perhaps fail the first time, but then return to try again with new and stronger projects. In this way one begins to see how a “purely” infrastructural project coalesces around itself an ecology that encourages innovative entrepreneurship.

Hosting developmental projects has proven to be a winning strategy for Kazan. It helps the regional government construct an imaginary future for itself, given visible shape by utopian-looking building projects. As a result, Kazan is associated with creativity and innovation, attracting talent from across the country.

THE LOCAL SPECIALISTS’ PERSPECTIVE

Interviews with local IT specialists confirm that this regional development may indeed affect both migration patterns within the country and emigration abroad. Because IT work is by nature mobile—to a certain extent these specialists can work everywhere—a high standard of living, good working conditions, and a beautiful contemporary city are factors that weigh in when individuals consider where to work in Russia, or whether to leave the country altogether:

Why do people leave the country in general? Perhaps, because of the better conveniences and also because of the prevailing ideas, that it is better to live abroad, rather than in Russia. Everything will be just right in this new place—I mean society, governance, state, and something like that. But from the other point of view, for instance, in the realization of your personal potential in IT, I would say that the alternatives are the same—you can do it here, you can do it there. There is not so much difference, where there is a will, there’s a way.

On one level, everyday life conveniences may indeed attract specialists to one location as compared to another, but the promise of a locally constructed
IT ecology also enhances the appeal of a place among professionals. In some cases it transforms “brain drain” into “brain circulation,” when natives of Kazan return because of opportunities they now see at home. One of the stories I heard was the professional trajectory of an IT specialist from Kazan who moved abroad and then returned to Russia, at first describing Kazan as a “province where [an] IT specialist has nothing to do.” It turns out that he was “simply afraid to live in Kazan.” At first he did not consider settling there and did not, in fact, even try to find a job in Kazan, going straight to Moscow instead. But after three months he realized that Moscow did not meet his Western-inspired expectations of a place conducive to building a career, which included a workplace within walking distance from home, flexible work schedule, and “something creative” for the content of his projects. So he came back to his hometown, first because of family, friends, and a fiancé, but also because of the promise of a local innovative IT ecology in the making. In general, he described Kazan as a dynamic city that is trying to achieve something unique: Innopolis and the IT park are central to these efforts. Yet some local specialists remain skeptical as they consider the difference between mere infrastructure and the promise of a new ecology that it purports to offer. Despite the enthusiastic reviews, many are withholding judgment. Some computer scientists and local software developers are cautious in their evaluation of the grandiose regional scheme; instead, they speak about specific research facilities, such as the university at Innopolis, or the number of companies that the new economic zone will be capable of attracting. As for the idea of growing and nurturing a new ecology of innovation, one of the local programmers emphasized that “the absence of multinational IT companies proves the inconsistency of the hype over Kazan as an IT capital, that it can be in any way comparable with Silicon Valley.” Thus, for people like this, Kazan still has a long way to go to prove that its aspirations can be realized. Besides, there may be a downside to the extensive branding strategy of local policy makers. The invention of a “new Kazan” can appear artificial. An IT specialist who migrated to Saint Petersburg from Kazan told me:

Kazan has changed a lot since the thousand-year anniversary. It was one of the criminal hot spots in Russia. And they [regional authorities] managed to pave it all over with asphalt and make roads everywhere. They really took it seriously—even built a subway. Nowadays, it is all about IT. Every time it is something new and nothing is left from the Kazan of the old days. Does it mean that there was nothing good in it to save? It means that Kazan is something artificial now, something which is constructed from scratch and based on these new technologies.
That is to say, marketing Kazan based on “regional specificity” or “European style” imparts a certain strangeness to the region when viewed from a Russian perspective. High-tech and business people from Saint Petersburg and Moscow perceive Kazan as having a culture all its own: “Kazan is different”; “People in Kazan do things in their own way”; Kazan is an “other” to which outsiders sometimes have difficulty relating.

**EXPERIMENTING WITH INNOVATIONS**

Starting with the e-government project, the way in which Kazan is reinventing itself as “the capital of Russian IT” has enabled it to promote itself as the leader in implementing pilot projects for federal programs and testing different forms of innovative policy tools for the whole country. The ability of the region to experiment and test successfully is now part of the “Kazan brand,” which helps the regional administration to funnel federal money to Tatarstan. For instance, the notion of the technopark, launched in 2004, was a pioneering “federal experimental platform” that stimulated the development of business incubators in other Russian regions. The technopolis Himgrad took part in the development of standards that are now applied to all industrial parks in Russia, and its experience was used for the development of new industrial parks in Ukraine, Kazakhstan, and Azerbaijan. In 2010, the two technoparks in Kazan, Idea and Himgrad, were chosen to be the platforms for the establishment of a new nanotechnology center. One of my interviews with a project manager of the Kazan IT park business incubator revealed its experimental nature as a place where specialists and managers are testing different ways of achieving the goal of growing domestic high-tech startups.

As the result of this experimental framing, Kazan’s ability to cast itself as a place where new policies and initiatives can be tested does not require it to prove that those innovative projects were necessarily “successful.” Therefore, the notion of “testing” changes the focus from innovations per se toward experimentation, using a variety of means to achieve innovation goals. And if specific experiments do not work out, at least the buildings are something tangible that will exist for a long time and can be used for other purposes.

As for the region’s future outlook, a combination of existing favorable characteristics will help local politicians adjust their branding strategy to whatever agenda the federal state will have to offer. In the summer of 2014, Nikolay Nikiforov, the minister of telecommunications of the Russian Federation, declared it necessary that the country have complete information.
sovereignty (Ministry of Telecom 2014). In this context, sovereignty stands for the replacement of all foreign software with domestically produced analogues: “Russian software” designed by Russian IT companies. According to Nikiforov, “It’s highly possible, because Russia has always been known for the high qualification of its programmers. We have worldwide famous IT companies, such as Yandex, Mail.ru, and others. We are preparing a complex of measures on substituting imported software with domestic.” He also added that Russia will need at least one million programmers to accomplish this, in comparison with the estimated 350,000 IT specialists currently working in Russia.

Rather than consuming foreign products, the Russian state has set out to revolutionize the domestic IT market. This process begins with military, defense, and government operations, where the choice of “Russian” technologies is especially important. In regard to the civilian market, “digital sovereignty” means the development of Russian search engines, email systems, and electronic government—the digitalization of domestic administration. This updated agenda of the Russian state was met locally with support. The idea of the local authorities to become a regional center for import replacement came as a response to Nikiforov’s initiative. By the time Nikiforov declared his vision of full informational sovereignty for Russia, Tatarstan had already adopted a special focus on testing electronic government platforms and producing software for state operations. While informational sovereignty was met with criticism among IT experts, its implementation is certain to have a strategic impact on many federal and local initiatives.

**CONCLUSION**

This chapter has described the strategy of the federal and regional state to establish an ecosystem of innovation in Russia. The Kazan model offers a different approach to design innovation ecology, based on urban development. According to this strategy, its ultimate measure of success lies in the establishment of new buildings—infrastructure, tech parks, and other tangible material forms. And Kazan has mastered it well. All of that considered, it is true that innovations—the development of new technologies and products—are in fact not the focus of this regional ecology. This kind of strategy is not even specific to IT and could also be applied to other high-tech industries, such as robotics or aeronautics. The strategy seems to be the same: a region establishes a new entity funded by state initiative, thereby providing the institutional setting for a new project, designating it the new technopark or busi-
ness incubator. Then the building begins. The Kazan story also shows that a great deal of money and effort—in the form of highways, buildings, housing, new universities, and research facilities—had to be invested in the region before it could even begin to build a viable high-tech center.

While everything must begin with construction, the creation of a truly successful environment for creative work involves larger-scale processes of development. It requires a broad improvement of urban spaces, which includes social and cultural transformations; the project needs to be appealing to investors, migrants, and locals alike. While the federal government can build infrastructure, the real work of innovation has to be carried out by people on the ground; the efficiency of these organizations largely relies on the competence and expertise of local decision makers and specialists. However, these issues are not considered within this model of innovation, based on square-footage development. It is fair to say that the local ecology of innovation in Kazan remains an experiment, exactly how it was envisioned by the local administration.

On the local level, the establishment of an IT hub enhances the authority of local officials. In a similar study, Nadir Kinossian (2006, 334) analyzes two major programs of urban development in Kazan, which are “Slum Clearance and Modernization of Slum Blocks in Kazan 1995–2005” and “Preservation and Development of Kazan Historic Center 2001–2005.” He concludes that “the programme outcomes can therefore be better explained by bureaucratic procedures, politics and the rational behavior of the local political elites rather than by cooperation between the public and private sector.” A similar conclusion can be made about the intention of the Kazan politicians to establish a high-tech center. “Ecology of innovation” is yet another appealing scheme to generate investments into the local economy from federal sources, so as to strengthen the relationships between Moscow and Tatarstan and to assert the authority of the local government. Whatever local improvements are made and whatever the result in terms of actual IT innovation, it may be that the chief beneficiary of this policy is the central state. Information technology investment in outlying regions is an ideal vehicle for the enhancement and extension of state authority. For this reason, these projects are often accompanied by extensive publicity designed to demonstrate to the Russian public that the government is active and forward looking. Thus, the ultimate “success” of these projects may have less to do with whatever IT innovations they actually produce than with the goal of establishing control over the periphery and demonstrating the intention of Russia to achieve digital independence.
NOTES

1. This evaluation is based on the number of innovative companies and the number of patented and implemented technologies that local companies and the authorities in Kazan claim to have developed.

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

REFERENCES


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