Insurance as an Integral Part of a Comfortable and Safe Urban Environment

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Abstract: At the present stage of development, the digitalization of the Russian economy is taking rapid steps and has affected many aspects of the life of the population and the activities of enterprises. Thus, in Russia, as part of the implementation of the national programs "Digital Economy" and "Housing and Urban Environment" at the regional level, two state projects have been developed – "Safe City" and "Smart City", which are aimed at improving the quality of life of the population. The article presents the author's conclusions regarding the modern practice of organizing and advantages of insurance companies' participation in these state projects. The purpose of the study is to identify the main problems faced by insurance companies and to determine the prospects for the development of relations between insurance companies and municipalities in terms of stimulating digital insurance. To achieve the goal of the study, such methods as methods of system and logical analysis, the method of induction were used. The result of the study is the basis of measures that should be implemented to expand the relationship between insurance companies and municipalities in the context of ensuring the safety and comfort of the urban environment.

1 INTRODUCTION

Currently, in order to increase the favorability of the urban environment, such parameters as comfort and safety are of particular importance. The need for modernization and improvement of urban space is due to many reasons, among which one can single out crime prevention, environmental cleanliness, the organization of accident-free traffic, and the improvement of the infectious and viral background. Taking into account the potential of the state projects "Safe City" and "Smart City", as well as possible advantages and risks that state and local authorities may face in the future, it becomes obvious the need to develop cooperation between the state and the insurance business.

A fairly extensive range of scientific papers is devoted to the development of cooperation between the state and the insurance business. Firstly, the work on the interaction of the state and insurers in the context of public-private partnership in terms of urban risk management in the context of climate change (T.L. Green et al., 2016; A. Altarhouni et al., 2021; D. Hillier, 2018). Secondly, studies revealing the specifics of urban risk management in the context of socio-demographic shifts: property inequality and rapid aging of the population and infrastructure (D. Hillier, 2018; E. Nebolsina, 2020; G. Li et al., 2020). Thirdly, the works devoted to the analysis and assessment of the management of systemic risks and catastrophic failures in the process of implementing the concept of smart urbanization (S. Kihombo et al., 2021; J. Barrese et al., 2016; L. Carter, 2020; S. Fifita, 2016; N. Gatzert, 2020; NAIC. 2021).

This article complements earlier studies on urban risk management in the context of transition and implementation to smart urbanization, focusing on the problems of insurance companies in the process of establishing links with regional and municipal authorities.

In our opinion, the study of theoretical and practical aspects of involving insurers in the process of forming a comfortable and safe urban environment inevitably leads to the problem of creating optimal conditions for the development of interactions between the state, municipalities and the insurance

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business in this direction. Therefore, issues related to the research and analysis of conditions for the development of interactions between the state and the insurance business, as well as the search for new approaches to their organization, seem to be extremely important and urgent tasks. As one of the approaches, it is proposed to consider the organization and development in the context of digital interaction, including by allowing insurers, firstly, to information from technical video surveillance devices, which will facilitate the procedure for settling losses on insurance events, secondly, to regional (local) digital portals in order to promote insurance products and, thereby contributing to the increase of financial protection of the interests of citizens.

2 RESULTS

Currently, two state projects are being implemented in Russia as part of the digitalization of the economy – "Safe City" and "Smart City". The Safe City Complex provides video surveillance and audio recording, record analysis and analytical data processing in real time, including identification and facial recognition. This means that the cameras not only record what is happening, but also provide information about people caught on the record.

The participation of insurance companies in the implementation of the Safe City project provides an opportunity for the development of digital insurance, primarily in the context of digitizing the procedure for settling losses in the event of insurance events and the validity of insurance payments.

The Smart City project is aimed at increasing the competitiveness of Russian cities, forming an effective urban management system, creating safe and comfortable living conditions for citizens. The project is being implemented by the Ministry of Construction and Housing and Communal Services of the Russian Federation.

If, by participating in the Safe City project, insurance companies improve their relationships with policyholders in terms of settling losses on insured events (discussed in more detail in paragraph 2.1), then by participating in the Smart City project they can increase the efficiency of their business processes such as marketing (first of all, the promotion of insurance products), sales of insurance products and support of insurance contracts, thereby improving relationships not only with their policyholders, but also potential consumers of insurance services (more details will be discussed in paragraph 2.2).

It should be noted that the participation of insurance companies and the expansion of the scope of their relationships with counterparties in the framework of the government projects under consideration provides an opportunity to develop the potential of digital insurance, which ultimately makes insurance an affordable financial instrument for more consumers of financial services and to protect their interests.

2.1 Insurance in the Context of the Safe City Project

In Russia, in accordance with the law (On the Organization of Insurance Business, 1992), all insurers have the right to receive information on losses, including from video cameras. However, in practice today, this norm is not fully implemented, because there is a paradoxical situation in which insurers do not have the opportunity to obtain recordings from CCTV cameras.

By the end of 2022, the total number of connected video surveillance cameras in Russia exceeded 21.05 million units. According to their purpose, cameras used in the Russian Federation are divided into four main sectors: cameras for face recognition occupied 40% of the market, for recognition of state registration numbers of cars — 30%, for situational video analytics (security, control, monitoring of children, elderly relatives, etc.) — 17%, for retail analytics — 13% (IA TelecomDaily, 2022).

According to Telecom Daily, almost a third of Russian cameras (32.8%) are installed at public expense in schools, hospitals, state institutions and on roads, 58.7% are supplied by commercial organizations to prevent theft, ensure security and for other purposes. The share of cameras installed by individuals accounts for 8.5% of all Russian cameras.

In accordance with the state project Safe City in regions and cities, places with a large number of population concentrations, including on roads and intersections, should be equipped with not only video surveillance cameras, the purpose of which is to monitor the condition and audio recording of incidents, but also video analytics that allow recognizing various types of human actions, as well as interactions of recognizable objects — a person and a car, that is, an accident with pedestrians and cars. Thus, the State Traffic Safety Inspectorate (Traffic Police) has at its disposal more than 20.7 thousand mobile and stationary complexes that allow recording one or more types of traffic violations throughout Russia (Table 1).

Table 1: Data on the number of road accidents on the roads of Russia, including those recorded by cameras.

Indicator	2019	2020	2021	2022
Traffic accident, total (thousand units)	164.4	145.1	133.3	126.7
The number of accidents under the cameras, thousand units.	2.35	2.90	3.13	2.83
The share of accidents under the cameras in the total number of accidents, %	1.43	2.00	2.35	2.23
The place of concentration of accidents, thousand sites	3.21	2.24	2.68	2.96

The installation and maintenance of stationary complexes is the introduction of a private company with which the municipality enters into a contract. The recording from the complexes goes to the information technology departments of the regions, access to which is available only to the regional authorities, the Ministry of Emergency Situations (MES), the Ministry of Internal Affairs (MIA) and the Ministry of Transport and Road Management of the subject of the Russian Federation. Currently, many insurance companies are denied access to records from traffic and other cameras due to the alleged attribution of this information to personal data and the risk of data leakage.

Note that the cameras located near the scene of the incident allow you to determine:

- the condition of the object before and after an emergency or the commission of a crime;
- the moment of occurrence of a dangerous situation or the commission of a crime;
- movement speed, distance and location of emergency participants;
- the exact place and time of the occurrence of an emergency or the commission of a crime;
- the location of the participants at the time of an accident or the commission of a crime (for example, car theft, driving away);
- directions of movement of participants in an accident after interaction or commission of a crime;
- the final location of each participant.

In this regard, access to the recordings from the cameras will allow the specialists of the insurance company, firstly, to confirm the event that occurred; secondly, to identify the participants and study the circumstances of an accident or other insurance event; thirdly, to assess the extent of the damage caused; fourth, to simplify the mechanism for collecting information on the insurance event (and in the case of an accident, it is faster to remove cars from the road with heavy traffic) and speed up the procedure for settling losses; fifth, to identify signs of insurance fraud. So with the help of cameras it is possible to identify such violations:

- retroactive registration of policies (Compulsory Motor Third Party Liability, Fully Comprehensive Automobile Insurance) for a damaged or stolen vehicle;
- indication of the wrong time and place of the accident in the accident report;
- substitution of a participant in an accident (for example, replacing the driver with a passenger);
- escape from the scene of an accident;
- indication in the accident report, emergency report of inaccurate (overstated) indicators of damage and harm received by vehicles or other property;
- staging of an accident, crash, theft of insured property;
- staging of insurance events that did not take place in reality;
- concealment of the facts of participation in previous accidents;
- concealment of information that is unprofitable for the policyholder for a certain fee (for example, about drug or alcohol intoxication).

As showed the analysis, today the insurance company in the process of participation in the Safe City project faced a number of problems: first, a large number of cameras (stream, street, access, etc.), record with which is transmitted in different systems of information storage, including cloud; second, the camera has a shelf-life, in connection with this difficult process of opening and running a criminal case; thirdly, to gain access to the cameras required the insurance company to apply to the administration of the region and to conclude an agreement (i.e., the insurer, operating in all 89 regions have to enter into an agreement with each); fourth, increasing the load on the regional apparatus, as it will be necessary with insurance companies to conclude a significant number of agreements on the provision of information from cameras (in Russia, 140 insurance companies, even if at least 50 of them will ask, it's a tremendous amount of work, which not only permit, but also in the monitoring of treatment); fifth, if necessary, get the information from the cameras that have not been listed previously signed agreement, the insurance company will have to make new; sixthly, not all regions that participated in the pilot Safe City project, the insurance companies have direct access to the records of the cameras, some of them provide the information only for the individual queries in the manual mode; seventh, in the regions unconnected to pilot project the insurance company to review the recording can be only in cooperation with the interior Ministry of the Russian Federation in the event of suspected insurance fraud.

It should be noted that at the beginning of 2023, only twenty of the 89 constituent entities of the Russian Federation provided some companies with access to cameras. At the same time, many cameras are configured only for video surveillance and audio recording, and there are practically no cameras with the analytics function. In this regard, we note that the demand for cameras with a video analytics system will increase in the near future from the state and municipalities, this is especially important in the process of implementing the Smart City concept (including in terms of the transition to a preventive policy).

2.2 Application of Insurance Services within the Framework of the Smart City Concept

The population living in an urban environment today faces various risks associated with both infrastructure facilities (house collapse, road accidents, accidents of gas and water systems, etc.) and the environmental situation (pollution of air, water and radiation background). One of the significant tools for managing the risks voiced, including within the framework of the implementation of the Smart City concept, is insurance.

The Smart City concept proposes to ensure the creation of a single ecosystem for a comfortable and safe life through the interaction of technological elements of the city (Mind in Chambers, 2021). On the basis of a single ecosystem, various platforms are being formed in the field of "Smart" housing, tourism, road traffic (for example, the national telematics service platform "Avtodata"), etc. Since each of these platforms carries information that is of direct or indirect importance for insurance activities (in terms of assessing both the risks of policyholders and the size and types of damage caused), insurers try to enter these platforms as not only users of this information base, but also co-partners of platforms that provide their insurance services.

As we can see, in the context of the development of the digital economy, the opportunities of its participants are increasing, which could not but affect the interest of private business in government programs, including the development of digital platforms. If earlier the main customer of solutions for the development of platforms in a particular area was the state, today many private companies from various industries offer their solutions and implement projects (for example, the project of "smart" transport in the Pskov region in 20018, implemented by MegaFon).

Insurance companies also offer solutions, for example, to expand the functionality of regional digital portals through insurance services relevant to citizens, which will increase the attractiveness of these digital tools for citizens. It is also important to supplement the Smart City standards with a requirement for the accompanying development of API standards and the inclusion of insurance services in the list of recommended solutions for regions in order to improve the safety of the urban environment. These measures will allow citizens to receive useful services and, ultimately, increase the financial security of citizens of our country [VSK, 2021].

Since August 2019, the federal law "On Housing Insurance against Emergency Situations [Federal Law No. 320-FZ of 03.08.2018] has entered into force in Russia, which defines the framework for the interaction of its main participants (regional authorities, insurers, insured citizens, etc.). This law gives citizens the right to choose, firstly, the most appropriate way to compensate for damage (to receive money or accommodation), established taking into account the total area of the affected property and the average market value per square meter in the municipality, and secondly, the possibility of disposing of the money received at their discretion - to buy new housing where it is convenient for them, and when it is convenient, or to spend money on something else (Clause 9 of Article 2 of Federal Law No. 320-FZ of 03.08.2018). The subordinate regional regulatory framework will reflect the essence of the basic approaches and principles of insurance and damage compensation in a particular subject of the Russian Federation.

Currently, pilot regions have been identified (Moscow, Leningrad, Sverdlovsk Regions, etc.), in which their own regional voluntary housing insurance programs will be developed and will enter into force in the near future. In a number of regions of the Russian Federation, an agreement was reached between municipalities and insurance companies, according to which municipal preferential housing insurance carried out by private insurance companies is carried out on a tender basis at the municipal level. The policyholders are apartment owners who pay for insurance services according to the amount for insurance services specified in the receipt for housing and communal services. Within the framework of this insurance, for the first time in Russia, an attempt is being made to combine two financing mechanisms (on the principle of co-financing) of damage compensation payments for lost residential premises within the same rules.

No less useful in the development of the Smart City concept is the promotion of "smart" insurance products created using new digital technologies (for example, insurance telematics).

As the analysis showed, the development of interaction between the state and the insurance business at the level of regions and municipalities, including within the framework of the implementation of the Smart City concept, faces a number of problems: firstly, there are no undoubted incentives not only for the development of public-private partnership in terms of transferring regional and municipal risks to insurance, but also to develop and implement their own regional housing insurance programs in the subjects of the Russian Federation; secondly, the instruments that motivate the population to voluntarily participate in regional housing insurance programs are poorly developed in legislative acts; thirdly, the presence of a deficit state of many regional budgets does not allow regional authorities to direct the necessary financial resources to develop and implement their own regional housing insurance programs and, accordingly, careful study of many points; fourth, the presence of some difficulties for insurers related to the determination of insurance rates for regional housing insurance programs due to the lack of data on the percentage of coverage of the population by this type of insurance, the distribution of risks of emergency situations between insurers and regional authorities in different territories of the subjects of the Russian Federation as part of the co-financing of damage compensation payments for lost housing; fifth, poor awareness of the population about the existence of established regional housing insurance programs and the benefits of participation in them for the population; sixth, poor understanding by regional and municipal authorities of the impact that the implementation of "risks of systemic and catastrophic failures" (K.- U. Schanz, 2021) may have in the transition to "smart" urbanization.

3 DISCUSSION

The development of cooperation between regions (municipalities) and the insurance business, including within the framework of the Safe City and Smart City projects, will create favorable conditions for the possibility of:

- implementation of a preventive policy;
- redistribution of the load of regions and municipalities on the risks of emergency situations in the controlled territory;
- improving the financial and social security of the urban population;
- a more complete disclosure of the potential of insurance. This interaction can be presented and implemented on the basis of a comprehensive program.

In this regard, in our opinion, in order to expand the relationship between insurance companies and municipalities in the context of ensuring the safety and comfort of the urban environment, a number of measures should be implemented: first, to deploy coordinated public-private efforts to manage risks, for example, through targeted public investments in infrastructure to increase sustainability and insurers supporting the authorities in urban planning, as well as in the development and implementation of risk management strategies based on their technical knowledge and access to a large database (K.-U. Schanz, 2021); secondly, to provide direct access to information, including from video cameras, allowing to confirm an insured event with a mandatory definition of the liability of insurers for the leakage of personal data; thirdly, to improve the legislative and regulatory framework in terms of "removing obstacles hindering the interaction of municipalities with insurers" (K.- U. Schanz, 2021); fourth, the authorities and insurers should work together to ensure the protection of information obtained from video surveillance cameras and video analytics.

Thus, the implementation of these measures will allow insurers to increase the efficiency of their activities, and the authorities to involve private businesses specializing in risk management and possessing significant investment capital in solving regional and local issues related to the organization of safety and comfort of the urban environment. Only if the spheres of interaction between various business entities are expanded, it is possible to implement high-quality improvement projects for residents and create comfortable conditions for them and, accordingly, has a chance for successful and effective functioning.

4 CONCLUSIONS

Taking into account the above points, the author suggests the Self-Regulatory Organization "All-Russian Union of Insurers" and the Bank of Russia to continue active work on the organization of interaction and cooperation of regional and local authorities with insurance companies, especially in terms of cooperation in order to facilitate their vital role in understanding, managing and transferring increasingly complex and interrelated urban risks (K.-U. Schanz, 2021). Nevertheless, it is important to remember that any chosen approach to insurance should always be associated with an integrated approach to risk management.

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