Turning Challenges Into Opportunities Regarding Office Spaces

Alexandra Nadia CÎRDEI and Daniela RĂBOJ, Romania

Key words: real estate development, spatial planning, valuation, office spaces, transformation

SUMMARY

The Covid-19 pandemic brought with it changes in people's lives, both on a personal level and in terms of work.

Thus, many companies have been forced to increase the percentage of people working from home and not a few have come to the conclusion that people are more productive and companies also make substantial savings. So, it is expected that work from home will remain a trend.

This automatically leads to a large volume of office space that remains unoccupied, but this should be seen as an opportunity to transform them into green buildings, whether they keep their current destination or become homes for example. The challenge of rethinking them can be turned into the opportunity to turn them into environmentally friendly buildings.

REZUMAT

Pandemia Covid-19 a adus cu ea schimbări în viața oamenilor, atât în ceea ce privește viața personală, cât și în ceea ce privește cariera.

Astfel, multe companii au fost nevoite să crească procentul oamenilor care lucrează de acasă și nu puține dintre acestea au ajuns ulterior la concluzia că oamenii au devenit mai productivi, iar companiile fac totodată economii substanțiale. Deci, este de așteptat ca munca de acasă să rămână directia principală în ceea ce priveste desăsurarea activitătii profesionale.

Acest lucru duce automat la un volum mare de spații de birouri care vor rămâne neocupate, dar acest lucru ar trebui văzut ca o oportunitate de a le transforma în clădiri verzi, indiferent dacă își păstrează destinația actuală sau dacă aceasta se schimbă devenind de exemplu locuințe. Provocarea regândirii lor poate fi transformată în oportunitatea de a le transforma în clădiri ecologice, mai prietenoase cu mediul înconjurător.

Turning Challenges Into Opportunities Regarding Office Spaces

Alexandra Nadia CÎRDEI and Daniela RĂBOJ, Romania

1. INTRODUCTION

2020 has been a difficult year both for companies and global economy, but also for citizens. Regarding companies, for the most part, the pandemic represented a great test of resilience and ability to adapt to situations not yet encountered. However, an important aspect is the one regarding opportunities due to the transformations they have undergone, transformations that have become essential in this global threat.

Regarding office buildings, due to the restrictions imposed in the context of the pandemic, they have become unoccupied spaces, and will probably remain so for an indefinite period. One opportunity we want to highlight in this article consists of the transformation of these office buildings into buildings with a different purpose.

Starting from the solution presented above, another opportunity that we want to present, in this paper, is to offer people and institutions new skills to adapt and reorganize unused spaces, skills that we consider essential, especially during post-COVID.

In terms of scientific research, trying to quickly and effectively find solutions to the most urgent needs of society it is a very important part. Office buildings should continue to serve society in one way or another, even in the most acute phases of the pandemic. Companies have not been prepared to deal with this COVID-19 virus, but we believe that the resources they have can contribute to the formation of collaborative relationships between the business sector, the public, private and social entities Agriculture, Health, etc.

2. CHALLENGES REGARDING OFFICE SPACES

Office space has grown exponentially in Romania's big cities in recent years. Given the increased demand for such buildings, a lot was built in a short time. Many such projects have been developed close to means of transport, so that they are accessible. In the current context, large office buildings have remained almost empty. Many companies chose for the employees to work from home, initially forced by circumstances, later they realized the benefits that both they and the employees have, so they either completely gave up the spaces initially occupied, or opted for much more spaces.

Taking all these elements into account, it is necessary to carry out in-depth studies on the need for office space at present, adapted to the new requirements, and the rest of the space needs to be converted into useful spaces.

This chapter will present the statistical situation of people who worked from home before the pandemic, but also how things changed after its occurrence. It will also present statistical situations on office buildings and their occupancy rate both globally and nationally.

2.1 Statistics regarding people working from home

Working from home brings many benefits to both employees and employers. Before the pandemic, there were companies that offered this benefit, but the percentage of people who enjoyed it was quite low. There were also employees who benefited from these days of working from home only 1 or 2 days a week. Due to the current situation, the companies had to reorient themselves towards the work from home of the employees, the alternative being to interrupt the activity for a longer or shorter period of time.

The benefits of working from home are numerous, among those highlighted by several statistics for 2020 are:

- leads to increased productivity;
- people are less tempted to change jobs;
- the number of days of medical leave or rest decreases;
- increases the diversity of the team;
- reduces the costs of employers because they can rent smaller spaces, with lower rent,
 no longer offer benefits at work to employees, utility bills are much lower;
- reduces the costs of employees who no longer have to spend on commuting, food ordered at work, clothes and even kindergarten;
- reduces stress;
- can help to equalize the gender pay gap;
- contributes to the extension of people's careers around the age of 50;
- the environment is more protected, especially in urban areas, improving the air quality without the emissions of all cars performing commute;
- offers the possibility to spend a longer time in the family.

Of course, working from home also brings difficulties to the people and companies in which they work. If the company issues could be reflected in the difficulty to weld teams, to communicate and to stimulate employees, on a personal level for employees the impact is instead on mental health.

2.1.1 Statistics for work from home before the pandemic

Prior to the outbreak of the pandemic, approximately 43% of people worked from home on a regular basis a few days a week, although 80% of those who participated in the 2019 Owl Labs statistics, these referring to respondents from the United States, expressed a desire to work this way. Moreover, 35% of people gave up their current job for another who offered this facility because this type of work offers flexibility.

As for the population of the European Union, it has traditionally worked in an overwhelming proportion, with only 5.4% on average of the active population usually working from home in 2019. At national level the percentage is even lower in the same reference year only 0.8% of people working from home.

At the level of the European Union, in 2017 there was a higher proportion of women working from home, approximately 5.3%, compared to 4.7% which was the percentage of men working from home. The trend was maintained in 2018, the percentages increasing by about 0.2% for both categories.

Although it may seem normal for the young population to be oriented towards this type of work, due to the openness to new technologies, statistics showed that in fact the proportion of people working from home increased with age. Only 1.6% of the workforce aged 15 to 24 worked at home in 2017, the percentage increasing considerably for the 25-49 age group to 4.7% and reaching 6.4% for people aged between 50 and 64 years old. The following year an increase of 0.2% was reported, respectively 0.3% for the first 2 categories.

2.1.2 Statistics for work from home after the pandemic

With the onset of the pandemic, companies had to reorganize their way of working so that employees were safe and the workflow continued. Thus, many of the companies implemented the work from home, if the field they belong to allowed them to do so. Thus the percentages of people working from home have changed radically.

At European level, the percentage of people working from home has reached an average of 30%. The country that has implemented this type of work in the highest percentage is Finland, reaching from 14.1% before the pandemic to about 60%, according to a Eurofund report, which presents data on the European Union labor market in the context of the Covid 19 pandemic.

There are also companies that do not like this type of work or maybe the field in which they operate does not allow them to do so, or they have not developed the necessary system for implementation, so globally 44% of companies do not allow working from home.

Romania remains one of the EU Member States with a small percentage of employees working from home, being the only country with a rate of less than 20% employees working from home.

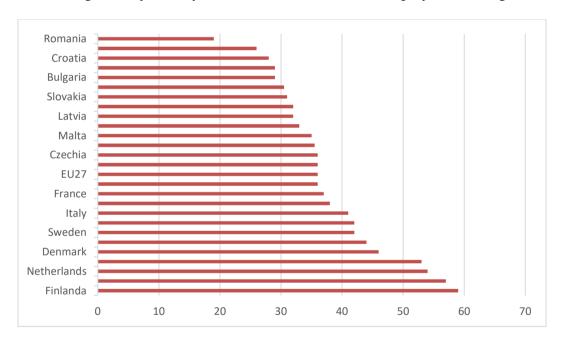


Figure 1 Workforce that went into telework due to the pandemic, presented by countries as a percentage (source: Eurofund EU[9])

Even the recruitment has changed with the new situation. Studies show that 16% of companies recruit only people who are willing to work from home.

It is difficult to say what will happen in the future, what the labor market will look like, but studies show that people would rather be happy with a hybrid work system, one in which they could go to work physically a few days a week, while maintaining the flexibility benefit that working from home offers for other days of the week.

2.2 Rental stock of office spaces

Due to the increase in the percentage of people working from home, many companies have given up all or part of the spaces previously occupied. At the level of June 2020, the global percentage was between 3 and 9%, but it is expected to reach 15% in the coming years.

Vacancy rates in Europe at the end of 2019 ranged from 1.5% in Berlin and 15% in Manchester according to a study by Statistics Research Department. According to the same study, Bucharest is among the cities with the highest unemployment rates with 10.5%.

At European level, there was an average decrease of 41% for office space rental according to BNP Paribas Real Estate (2020), due to the pandemic and its challenges.

At national level, the percentage of unoccupied spaces in June 2020 was over 11%, but if we take into account the direction of keeping the work at home, it is expected that this percentage will increase in Romania as well.

If we refer to Bucharest, the percentage of unoccupied office space increased by about 45% compared to the period before the pandemic, according to a study conducted by Avison Young. Market studies conducted by Cushman & Wakefield Echinox show that the vacancy rate had already reached 12.5% by the end of 2020.

If in terms of office buildings, the trend has been to decrease their occupancy due to the pandemic, there are also real estate sectors that have experienced increases in the volume of transactions or rents. In terms of purchasing, the residential sector was not very affected by the crisis in Romania. Investments continue to be made in this sector because there is still a high demand for housing, the number of transactions has increased, but also the price of housing. In terms of leasing, healthcare companies have expanded their leased space by 65% in 2020, according to the Deloitte Center for Financial Services Global Outlook Survey 2020. Given these data, the rethinking of commercial space for other uses can be considered, which can reduce the losses suffered by office space owners or even bring them profit.

3. OPPORTUNITIES REGARDING OFFICE SPACES

As can be seen from the statistics, the vacancy of office buildings leads to major financial problems and challenges, so is a necessity to find a solution to reduce losses and revive their real estate market.

This article would like to point out that with all the problems the real estate market is facing due to the pandemic, there are also opportunities related to these areas. According to current data, the future implies the coexistence of traditional work with work from home. So, part of the office spaces will keep its destination, but it is necessary to adapt to the new conditions imposed by the pandemic. The following subchapter details what this entails.

Another opportunity to use these spaces is their conversion into green living spaces, as the vast majority of office spaces in Bucharest, to which we refer, already have green certificates. It is a global trend to build green residential buildings, and this is a very good opportunity for Romania to align with this trend. This topic is also further addressed.

3.1 Redesign the workplace according to the present situation

The locations of vacant office space, but also the associated benefits such as access to public transport or parking spaces are very important aspects that are taken into account when carrying out residential projects.

At national level there is a considerable percentage of office buildings that are located either in former industrial areas or at the outskirts of cities. Given these aspects, these locations may not be conducive to the development of residential properties or the conversion of office space for this purpose. In this situation, the option of office spaces redesign to preserve its original destination may be more profitable.

In order for people to return to the office, they need to follow a number of rules. Many of these rules refer to the way offices are organized in order to leave more space between people, to make it easier to ensure cleanliness and hygiene.

If before the health crisis people were free to choose their days when they worked from home and when they worked from office, now this must be organized in detail. Most companies only allow employees access if they have previously announced and received the written consent of a manager or a responsible person. This is because overcrowding is avoided, even if people wear a face mask all the time, their temperature is measured, they are using frequently disinfectant and the space in which they work is also more often cleaned and sanitized, including UV lamps.

Also, common areas need to be reorganized, with fewer places where people can stay, and meetings with groups of people will be greatly reduced.

Basically, the floors organized as open spaces with a lot of adiacent cubicles must be reorganized, giving up some of the furniture and achieving a clear separation between them with panels or plants. Lifts can no longer be used at their maximum capacity, and it is even recommended to limit their use.

If in common areas it is not possible to give up certain pieces of furniture, then certain chairs must be marked accordingly, so that employees use only the unmarked ones, in order to respect the required distance. If possible, it is recommended to arrange common areas for a relaxing break or meal in open areas.

Although office buildings used a lot of air conditioning, it is recommended to increase the degree of natural ventilation.

In as many spaces as possible, it is recommended to place disinfectant diffusers and limit the touching of common appliances, such as coffee or water appliances.

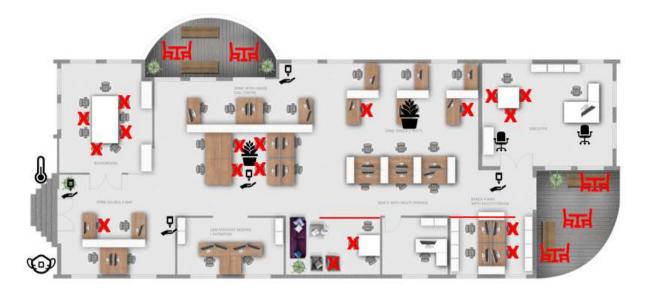


Figure 2 Open space office redesigned (original image source:www.entrawood.co.za)

All the rules that the company adopts to allow people to return to the offices must be displayed, and people must be encouraged to follow them. In support of this initiative, various indicators can be set up to help people respect a certain walking direction or the required social distance. The health crisis offers employers the opportunity to redesign low-cost office spaces in order to provide more space for people and work in a more nature friendly environment, more natural ventilation, using more natural lighting. All these things are much easier to do now when the number of people coming to the office is still very small and the redevelopment works do not disrupt their activity.

Also, by encouraging people to have their own containers for water and food, the reduction of single-use plastics is accelerating, so it is a good time to encourage important civic behavior of involvement in combating pollution.

3.2 Transforming office spaces into green residential buildings

Of the total green certifications granted in 2016 in Romania, 80% were granted for office projects. At the beginning of 2017, over 1.22 million sq m of office space had green certifications such as LEED and BREEAM and another 36 buildings, with approximately 785,000 sq m of offices, were in the process of certification, according to Colliers International. At European level, Romania ranks among the young markets in terms of green certifications. The Romanian office market has been in a continuous expansion, with many national and multinational companies having a large number of employees in need of generous office space, but their expansion has been halted by the emergence of the COVID-19 virus, a context in which many people work from home.

As office buildings have become unoccupied worldwide with the onset of the pandemic, the number being constantly on the rise, this has had a devastating effect on the real estate market. According to studies, a huge number of office buildings are currently at a standstill. We consider that the municipality, through urban planning, represents a solution for the conversion of office buildings into residential buildings, long-term area change projects, and in this way Romania will have a larger number of green residential buildings, taking into account that most office buildings were already certified for this purpose.

An analysis of Build Green, a leading consultant in the field of design, development and sustainable certification of buildings in Romania, published in mid-2020 showed that 60 residential complexes in Romania have obtained green certificates, totaling 12,000 homes. They expect their number to increase in the future because the direction of sustainable construction is a natural one and adopted by a large number of countries internationally, but at the same time there has been a greater interest of people to purchase such housing. These buildings bring less harmful interventions on the environment and they also offer the prospects of a healthier environment to live every day and even more economically. Such green buildings bring savings of 25-50%, reducing the consumption depending on the performance level achieved. This consumption refers to energy consumption, as well as that generated by heating or cooling homes. So increasing the number of green residential buildings brings substantial benefits both to the people who live in it and to the environment by reducing pollution.

This type of conversion can lead to problems that have not been taken into account, so we recommend as a first step to study the current law and conduct a study on changing usage. With regard to the legislation in force, the conversion presupposes aspects related to the style of the windows, the movement of the doors, the type of plywood used, the maximum level of decibels allowed, the risk of floods, etc.

The vacant office buildings, in the context of the pandemic, directly affect the owner, from an economic point of view. The effects that vacant buildings can produce to society, can lead to further insecurities and uncertainties. Converting office buildings to residential buildings is one of the many solutions to the problem of vacations.

Indirectly, vacant office buildings create a negative image of the area and neighboring buildings, causing damage to the area, namely an undervaluation of buildings.

In order to decide the conversion potential of office buildings, we propose discussions with the architect, real estate developer or client regarding the risks and chances of a successful project. The conversion of office buildings is beneficial in terms of sustainability, both from an ecological and urban regeneration point of view.

This article is a first step in trying to describe a more detailed picture of the risks and chances of conversions. Knowledge of the risks and chances of conversion are necessary to make optimal decisions regarding transformation projects.

The viability of converting office buildings into residential properties depends on a number of variables that may indicate the degree of caution that an investor may or may not assume.

Despite the obstacles that may be encountered in the conversion procedure, these projects can provide maximum productivity to investors. The opportunities that may arise are the following:

- The office building market is at a standstill in the context of the pandemic, and prices tend to fall relative to residential properties;

 Most office buildings are located near public transport networks, representing a strong point for residential properties.

The conversion made on the structure of the existing building is sustainable in terms of the fact that the materials are reused and the morphological structure of the urban area is preserved, and so time is saved too.

Office buildings can be suitable for conversion projects, from the point of view of the real estate market, because the longer the vacancy period, the higher the loss of the office buildings owners, and the alternative to selling the property would be to initiate the conversion procedure. There are differences between the legislation on the construction of residential or office buildings. For example, emergency exits, natural lighting, noise levels in the vicinity may require changes in the structure of the building, changes that involve high costs or that can lead to an impossible conversion. At the same time, keeping the building in its original form can lead to financial losses, if it is unoccupied for a longer period of time. With these uncertainties, the conversion seems difficult to accomplish.

Knowledge related to the conversion of buildings is very important, especially since advanced knowledge from other specialized fields is needed in order to carry out transformation projects. The risks of such conversion projects can have various sources, such as the real estate market, the municipality or the building itself. Problems may occur when the design project has not been fully complied with. These inconsistencies can lead to higher costs if they are detected during the conversion process. These risks can be eliminated by planning an optimal strategy. Things to consider when converting according to Remøy H.T. and Vander Voordt D.J.M. (2014):

- In terms of location
 - Urban situation (location being in the city or on the outskirts);
 - Real estate market (rental price, period when it is unoccupied, if there are other vacant buildings nearby);
 - Facilities in the area (shops for daily shopping, cafes, bars, restaurants, gyms / fitness, educational facilities);
 - Accessibility to public transport;
 - Accessibility to parking spaces.
- Regarding the building
 - Year of construction;
 - The condition of the building;
 - Height regime;
 - Structure;
 - Dimensions of the facade:
 - Access to the building (refers to the number of entrances);
 - Water, sewerage, electricity, natural gas, internet network, etc.

4. CONCLUSIONS

The way we live and work has certainly changed significantly with the advent of Covid 19, and this has an impact on the real estate market, on the economy and last but not least on the way people interact.

The residential real estate market, although it remained active, changed a lot. Buyers' requirements are based on other criteria, fast access to public transport is no longer a priority, but rather the area and proximity to natural spaces, for example.

The real estate market of office spaces, which was in a continuous and accelerated expansion in the big cities of Romania, also underwent major changes. Large companies have given up all or part of previously occupied spaces, and the owners of these spaces are forced to reorient themselves towards solutions that reduce their losses and reduce the degree of vacancy.

The reorganization of the spaces is much easier to arrange, but considering the new rules, for a smaller number of employees who can benefit from the space, sometimes too high costs are imposed for companies. Given the general tendency to work more from home, or in a hybrid system, it is very likely that the demand for rental office space will decrease.

Conversion is a sustainable way to develop housing through partial or total reuse of buildings. Increasing the percentage of green buildings in general and residential buildings in particular is a European and international goal, and the challenge posed by the pandemic and its new way of life can turn into an opportunity to accelerate this process.

The more office buildings are located in an area closer to the central one of the city, the more successful the conversion projects are, the location, in this case allowing the possibility of attracting a large number of investors.

Converted buildings will be reused, regardless of whether the resulting functionality is not 100%. From the point of view of sustainability, the conversion of office buildings makes sense in the context of ecological and urban regeneration. If, from an economic point of view, these projects become feasible, then they will be of greater interest to developers.

REFERENCES

- [1]. Adomatis S., 2018, A Guide to the Residential Green and Energy Eggicient Addendum, Appraisal Institute
- [2]. BNP Paribas Real Estate, 2020, European Office Market
- [3]. Colectiv Facultatea de Geodezie de la U.T.C.B.,2017, Planificarea spațială și GIS pentru dezvoltare durabilă Vol.I Sinteze/Cap.13 Analiza statistică pentru mediul urban, Matrix Rom, Bucharest, ISBN 978-606-25-0378-9,978-606-25-0379-6
- [4]. Răboj D., Cîrdei A.N., 2018, The valuation process of green building in the context of urban development, RevCAD Vol.25, pg. 107-114, Alba-Iulia
- [5].Remøy, H. T. & Vander Voordt, D.J.M., 2014, Adaptive reuse of office buildings: opportunities and risks of conversion into housing, Building Research & Information Vol.42:3, pg.381-390

- [6]. Sabadash A. Eurostat editor, 2020, Sustainable development in the European Union Overview of progress towards the SDGs in an EU context, Publications Office of the European Union, ISBN 978-92-76-17455-4
- [7]. SDSN and IEEP, 2020, The 2020 Europe Sustainable Development Report: Meeting the Sustainable Development Goals in the face of the COVID-19 pandemic. Sustainable Development Solutions Network and Institute for European Environmental Policy: Paris and Brussels
- [8]. <a href="https://archinect.com/news/article/150208671/should-shuttered-office-buildings-be-converted-to-busing?fbclid=IwAR2T7pKYfv4EkJCijqw_wCEM2K_lOhACL3lkhRyUtSpH7fERZcCHO_Wc-Ws (last accessed on 10 February 2021)
- [9]. https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef20058en.pdf (last accessed on 8 February 2021)
- [10]. https://www.fastcompany.com/ (last accessed on 10 February)
- $[11]. \qquad \underline{https://www.garnessjones.co.uk/news/how-to-successfully-convert-offices-into-homes?fbclid=IwAR2EoWWEra87Q-}$
 - <u>Hq2AEgRhaMu9NyiNKjn20z8HpRQ93Qsjm9vp3_J7KKVeQ</u> (last accessed on 10 February)
- [12]. https://globalworkplaceanalytics.com/telecommuting-statistics (last accessed on 4 February 2021)
- [13]. <u>www.gov.ro</u> (last accessed on 10 February)
- [14]. https://www.smallbizgenius.net/by-the-numbers/remote-work-statistics/ (last accessed on 4 February 2021)

BIOGRAPHICAL NOTES

Alexandra Nadia Cîrdei is assistant professor at Technical University of Civil Engineering, Faculty of Geodesy, Surveying and Cadastre Department, Romania since 2016. She received PhD degree in 2018 at Technical University of Civil Engineering, Bucharest, Department of Doctoral Studies, doctoral field: Civil Engineering, Specialization: Geodesy, Photogrammetry, Cartography and Remote Sensing, title of thesis: "Contributions regarding deformation analysis". Member of The National Association of Romanian Authorized Valuers since 2016 in real estate valuation, also member of the Union of Geodesy in Romania and president of young committee since 2019.

E.g. Dr. Daniela RÅBOJ is an Assistant Professor in the Department of Topographie and Cadastre at the Technical University of Civil Engineering of Bucharest (since 2013). In 2016 she received PhD degree at Technical University of Civil Engineering, Bucharest, Department of Doctoral Studies, title of thesis "Research on management of special destinations lands". Relevant publications: Planificare Spațială și GIS pentru dezvoltare durabilă (Sinteze), Vol. I & Vol. II, Răboj D., Cîrdei A. N., ed. MATRIX ROM, Bucharest 2017; Răboj D., Badea G., Badea A. C., Importance of the Market Value of Real Estates in Cadastral Registration, 16th International Multidisciplinary Scientific Geoconference SGEM 2016.

CONTACTS

Alexandra Nadia Cîrdei

Technical University of Civil Engineering, Faculty of Geodesy, Surveying and Cadastre Department

Lacul Tei Blvd., 124, 2nd District, 020396

Bucharest ROMANIA

Tel. +40212421208

Email: <u>alexandra.cirdei@utcb.ro</u>
Web site: geodezie.utcb.ro

Daniela Răboj

Technical University of Civil Engineering, Faculty of Geodesy, Surveying and Cadastre Department

Lacul Tei Blvd., 124, 2nd District, 020396

Bucharest ROMANIA

Tel. +40212421208

Email: daniela.raboj@utcb.ro
Web site: geodezie.utcb.ro