

Deep Insights: Underground Planning and Construction as Alternative to continuous Surface and Highrise Development

Antonia Cornaro

What do you notice when you move around in densely populated urban areas? That we expand both in width and in height in our building mania and growing trend of urbanization. But shouldn't we pause here and think about how and with what we are building our urban environment? Do we want eternally growing urban areas and their "fat belts" with peripheral residential, shopping, commercial and industrial areas? Or do we want compact urban environments with good accessibility and aesthetic and architectural first-rate spatial qualities? What influence does increasing urbanisation have on our cities and, above all, on future land requirements and use? How do we enable centrality of our daily activities and needs as well as sustainability in our urban living space? What role does underground space play in the creation of new living spaces in cities and urban areas of the future?

The underground space has long played an important role in the functionality and mobility of our cities, which will continue to grow in the future. If we understand this phenomenon and this added value and make optimum use of the opportunities it offers us, we will all benefit from it: By not overusing surface space and by planning sustainable urbanization that is integrated and harmonized with the subsoil.

Recently, together with my co-author Han Admiraal, I wrote a book entitled "Underground Spaces Unveiled: Planning and Creating the Cities of the Future", which is aimed at a broad interdisciplinary audience and offers a comprehensive overview of the topic.

Our book deals with the future of humanity and our cities. We recommend exploring the underground in the way we explore space. The motives are the same; the difference is that we don't have to leave this planet to do it. And we can take advantage of it much earlier.

Over the past several years, we have travelled the world and given presentations, moderated seminars, participated in workshops and offered training. We felt the need to explore this topic in a book and to make more people aware of the many possibilities of underground space. By making underground spaces accessible to a wide audience, we demonstrate the benefits they can bring to our cities, as well as the potential risks if we ignore them.

Our message goes to urban and transport planners, urban developers, architects, designers, real estate developers, landscape designers, environmental planners, engineers, lawyers and decision-makers, and really anyone concerned with the built environment. The sustainable future of our cities depends in part on comprehensive planning for the use of underground space. Only then can we be sure, that wherever possible, the greatest contribution will be made to our cities. At the same time, planning makes it possible to secure and safeguard valuable ecosystem services and avoid the negative impact of human interventions.

An urban future in harmony with the underground space still offers untapped potential. Underground space is vital to life, providing heat for energy and storage for water. It offers protection and the opportunity to create new connections for telecommunications, transport, goods and logistics. In addition, underground we can avoid obstacles that we have created on the surface. As such, it enables us to create efficient, straightforward networks, minimize distances and maximize connectivity. Implementation requires ingenuity, creativity, innovation and adaptation of legal conditions and building regulations and possibly more advanced and faster technologies. But we are convinced that the thoughtful and holistic use of the underground space will be as challenging as it will be successful.

References

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