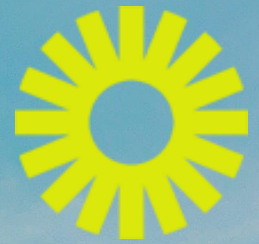


# ARENCO

ARCHITECTURAL ENGINEERING & CONSULTATION SERVICES

# CONSTRUCTION ACTIVITY IN CRETE



KEY TRENDS AND  
PROSPECTS  
TO 2022



MARKET INSIGHTS

Special Edition, February 2022

### **About ARENCOS**

ARENCOS is an architectural and engineering business based in Chania, Crete. The firm also provides consulting and real estate advisory services to private clients and investors spanning multiple industries. With a highly qualified team of engineers, architects, topographers, interior designers, renewable energy engineers and researchers, ARENCOS brings world-class capabilities and high-quality service to clients, delivering the insights they need to identify and establish exceptional real estate opportunities and address the most complex construction challenges.

ARENCOS services are devoted to becoming the standard of excellence.





## editorial

# Maria Gkika

ARENCOS FOUNDER

Happy New Year! Dear readers, welcome to this special edition of ARENCOS Research Publications, with its wide range of insights into trends, opportunities, incentives and investments in the construction and real estate market of Chania, Crete, Greece.

Once again, we would like to thank you for your preference in choosing ARENCOS for your real estate and construction projects in Crete, Greece. We vow to continue honouring the confidence you have put in us. We have spent the past year intensifying efforts to further advance and enhance our services, in spite of the continued and well-known challenges of this second winter with the Covid-19 pandemic. The Covid years are littered with forecasts that didn't work out. For anyone looking ahead into 2022, that should be enough to give pause.

Last month, we unveiled and established a new business named My Place in Chania ([www.myplaceinchania.com](http://www.myplaceinchania.com)), which is also the first to incorporate our real estate identity with Business Intelligence and Advanced Analytics. We are also working hard to complete, by April, our new project named Why Chania. We are confident that we will be able to tell you all about it in the next issue of ARENCOS Research & Insights.

ARENCOS website is also being constantly enriched with insightful guides and digital tools that add value to our clients and visitors. Furthermore, we launched a new service called Real Estate Mediation, which allows an ethical mediation between property owners, buyers and investors.

Our view is that 2022 will be the year of a full recovery, an end of the global pandemic and a return to normal conditions we had prior to the COVID-19 pandemic. We believe this will produce a strong growth in consumer and corporate spending and establish a new era for our sector.

However, apart from the soaring energy prices, heavy-side materials, including cement products, glass, steel and bricks are also facing significant price rises. Increased global demand in the construction sector, combined with the multiple and complex impacts of the pandemic and logistic bottleneck issues, have resulted in extraordinary shortages, delays and ultimately, increased prices of materials. Nonetheless, we expect construction and real estate investments to continue their post-pandemic recovery.

We are already in January 2022 and there is no question that the Omicron variant is concerning. The pandemic is, unfortunately, still with us, posing a plethora of difficult challenges and uncertainties especially for our small local economy here in Crete, Greece.

The 2022 construction market forecast for the island of Crete looks considerably different than 2021. To achieve better results this year, the market will need to tame new unpredictable risks, some that investors aren't accustomed to. Real estate Investors will have to pick their spots carefully in 2022 and may not be able to rely on the appealing ROI potential – either in broad investment terms or even within a particular investment style or sector.

Nevertheless, we believe that 2022 will mark another important step as we endeavor to move beyond this health crisis, allowing property owners, construction firms and investors to invest and trade with more confidence.

From all of us at ARENCOS, I wish you a happy and creative new year, and I thank you again for choosing our firm and services for your project in Crete, Greece.



**author**

## **Stavros Thomas**

SENIOR ADVANCED ANALYTICS AND  
BUSINESS DIGITALIZATION SPECIALIST

Wishing you and yours a safe, healthy, and prosperous new year. We face a rapid and continuous delivery of predictions by economy experts and others about the next 12 months. It's only usual – as individuals, we think about the future all the time. The challenge is that some of our predictions are very often not accurate or precise enough.

Most people expected 2021 to be better than 2020 and ended the year by saying – unfortunately - it wasn't. Many of today's predictions about the year ahead - mainly because of the overall economic climate – expect that the year ahead is likely to be as tumultuous as the last 12 months. However, a large number of market experts say that 2022 will be a year of gradual absorption of the pandemic shock, with robust but less spectacular numbers, as much of the catch-up is now behind us, and a normalisation of supply conditions allowing higher levels of optimism.

Usually, the arrival of a new year carries a sensation of lightness, a fresh approach and a new beginning. However, optimism especially during times of change also goes hand in hand with uncertainty and volatility as we look ahead.

All these emotions are highlighted in 2022, a year that continues to be shadowed by the lingering effects of the pandemic. As energy prices skyrocket, what will 2022 look like? Can we then think of moving forward in 2022, despite our concerns?

Practically speaking, a lot of these worries will not magically disappear this year, but we have learnt a lot about making contentment with what we have. 2022 offers the possibility of working alongside both pre-pandemic and post-pandemic standards and decide what truly makes us happy.

According to our analysis, the most critical concern for the construction sector in Crete is availability and cost of building materials and energy prices. Steel had a record price increase of 130% over the last 12 months; copper, aluminum, and lumber prices increased 40-60% over the same period.

According to several studies, obstacles including inflation, high prices, pandemic's variants and more will continue into the new year, as developers face a now-or-never moment to build. The key is whether people are actually feeling confident enough and signing contracts.

During the first days of 2022, we see people doing that. For example, while hospitality construction in Crete has been one of the hardest hit sectors of the pandemic in Greece (and globally), there is an increased activity for lodging projects development and construction at the beginning of 2022.

At ARENCOS, we have many clients from abroad who are wanting to build. The latest Commercial and Residential Construction Index reflects increases again as contractor confidence has been significantly improved. Residential construction in Crete, remained strong throughout 2021 and is forecasted to continue in 2022.

It is with hope rather than trepidation that we enter 2022. In this vein, we invite you to explore our latest research, which finds property owners, buyers and investors cautiously optimistic about the year ahead!

We do hope you find this document useful. Please email [research@arencos.com](mailto:research@arencos.com) with any comments or ideas.

# My lace in Chania BY ARENCOS

To exploit the potential of value creation, we strive to deliver sustainable, yet reliable real estate solutions by harnessing extensive data and market insights to execute on all aspects of a property's purchase lifecycle and drive better results.

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**DISCLAIMER:** Multiple scenarios and alternative strategies guide us in these unprecedented times

Producing this Trending Topics and Market Outlook has been more challenging than ever. The pandemic crisis has clearly demonstrated how fast conditions and standards can change from one moment to the next.

It is therefore critically important to mention, that the scenarios described in this report and our forecasts may well differ at the time of publication, given that a great deal of uncertainty still remains. Our prognostic models are designed to reduce uncertainty and provide reliable insights.

However, in a serious crisis like this one, uncertainty can reach extreme levels, and the normal way of assessing data becomes overstrained. At such times traditional data analysis models rarely prove adequate means that operating models must enable continuous learning and flexible responses as situations evolve.

## Building Activity in Greece

Building activity in Greece shot up by nearly 120 percent in June 2021 with construction in western parts of the country picking up the most, data from the Hellenic Statistical Authority show.

In Greece, the Hellenic Statistical Authority said that total building activity, based on volume, reached 2.4 million cubic meters, up approximately 100 percent from a year earlier. The highest growth rates were seen in Epirus (480 percent), in the north-west, and western parts of Greece's mainland (259.7 percent), in Crete (197.00 percent) and in the region of Attica (123 percent rise).

For the same period, the total number of building permits issued by authorities nationwide rose 63.0 percent to 2,222.

The rising cost of building materials is causing major headaches for the industry that is seeing a post-pandemic boom globally, raising fears of bubble markets emerging in Europe and elsewhere in the world.



**CONSTRUCTION SECTOR  
FACTS & TRENDS FOR 2022-  
2025 & BUILDING ACTIVITY**

**1**

**THE CONSTRUCTION  
OUTLOOK FOR 2022 IS  
LOOKING POSITIVE, BUT THE  
SECTOR WILL FACE  
CHALLENGES**

**3**

**ONGOING SUPPLY-CHAIN  
ISSUES TO CONSTRAIN  
CONSTRUCTION ACTIVITY  
IN CRETE**

**5**

**NATIONAL AND REGIONAL  
BUILDING REGULATORY  
FRAMEWORK**

**7**

# CONTENTS

## Premium Content

Construction Outlook  
All Construction Activity  
Residential Construction  
Commercial Construction  
Infrastructure Construction

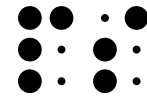
Key Industry Participants  
Contractors  
Consultants  
Suppliers

Premium Construction Market Data  
Commercial Construction Output by Project Type  
New Commercial Building Permits  
New Residential Building Permits  
Construction Industry Key Data

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Premium Content email Stavros Thomas at  
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# CONSTRUCTION SECTOR FACTS & TRENDS FOR 2022 & BUILDING ACTIVITY



According to the National Statistical Service of Greece, construction output in Greece rose 3.7 percent from a year earlier in the third quarter of 2021, easing from a 4-year high of 16.2 percent growth in the second quarter as low base effects begin to fade.

Building activity soared 27.0 percent (vs 25.4 percent in Q2), the highest reading since at least 2016. On the other hand, civil engineering works decreased by 9.5 percent (vs a 9.8 percent rise).

Many reports over the remaining part of the forecast period (2022-2025), indicate that the country's construction sector should record an average growth rate of 2.6% between 2022 and 2025.

The sector's output will be supported by improving investor confidence and investments in transport, renewable energy, residential and commercial infrastructure projects.

The government is focusing on the development of massive renewable energy projects, in line with its target to increase the share of renewable energy in the total energy mix by 35% over the next 10 years. The plan involves a target of producing 7.7GW of solar PV and 7GW of onshore and offshore wind capacity by 2030.

An increase in building permits and foreign direct investment (FDI) in construction will also contribute to the industry's growth momentum in the early part of the forecast period. According to the ELSTAT, the number of building permits issued in the country registered growth of 36% in the first four months of 2021, increasing from 5,272 during January-April 2020 to 7,172 during January-April 2021.

The Total Building Activity (private-public) in Greece, in September 2021 which is calculated on the basis of the number of issued building permits, amounted to 1,982. This figure corresponds to 728.1 thousand m<sup>2</sup> of surface and 3,118.9 thousand m<sup>3</sup> of volume, reflecting,

respectively, an 11.2% increase in the number of building permits, an 85.1% increase in surface and an 102.3% increase in volume, compared with the corresponding month of 2020.

The building permits for the Private Building Activity issued in Greece in September 2021 amounted to 1,973. This figure corresponds to 709.1 thousand m<sup>2</sup> of surface and 2,963.9 thousand m<sup>3</sup> of volume. In comparison with the same month of 2020 there is an 11.5% increase in the number of building permits, an 82.2% increase in surface and a 95.5% increase in volume.

From October 2020 until September 2021, Total Building Activity (private-public) in Greece, calculated on the basis of the number of issued building permits, amounted to 22,596. This figure corresponds to 5,879.3 thousand m<sup>2</sup> of surface and 24,529.5 thousand m<sup>3</sup> of volume.

In comparison with the corresponding period from October 2019 until September 2020, there is a 17.7% increase in the number of building permits, a 42.5% increase in surface and a 39.3% increase in volume.

In the same period, from October 2020 until September 2021, Private Building Activity in Greece recorded a 17.7% increase in the number of issued building permits, a 40.7% increase in surface and a 35.8% increase in volume, compared with the corresponding period from October 2019 to September 2020.

During the period January - September 2021, Total Building Activity (private-public) in Greece recorded a 26.8% increase in the number of issued building permits, a 60.5% increase in surface and a 55.6% increase in volume, compared with the corresponding period of 2020.

During the same period, January - September 2021, Private Building Activity in Greece recorded a 26.9% increase in the number of issued building permits, a 59.2% increase in surface and a 52.5% increase in volume, in comparison with the period of January - September 2020.

Source: Building Activity Survey: September 2021, Hellenic Statistical Authority

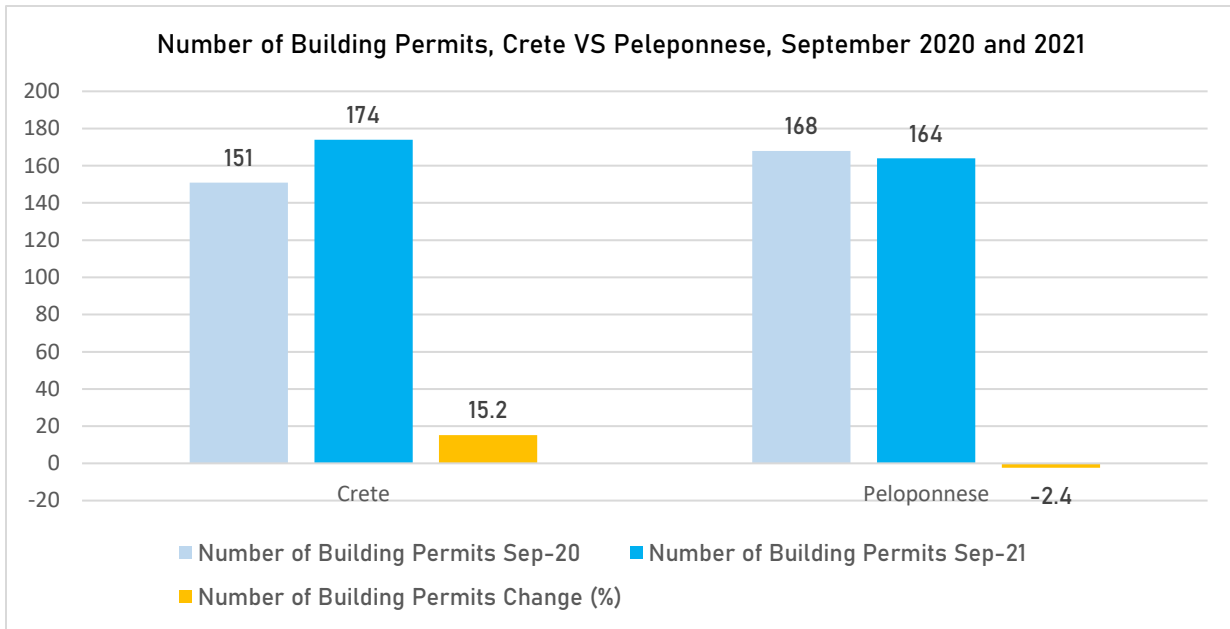


Table 1. Source: ARENCOS (Data source: Hellenic Statistical Authority)

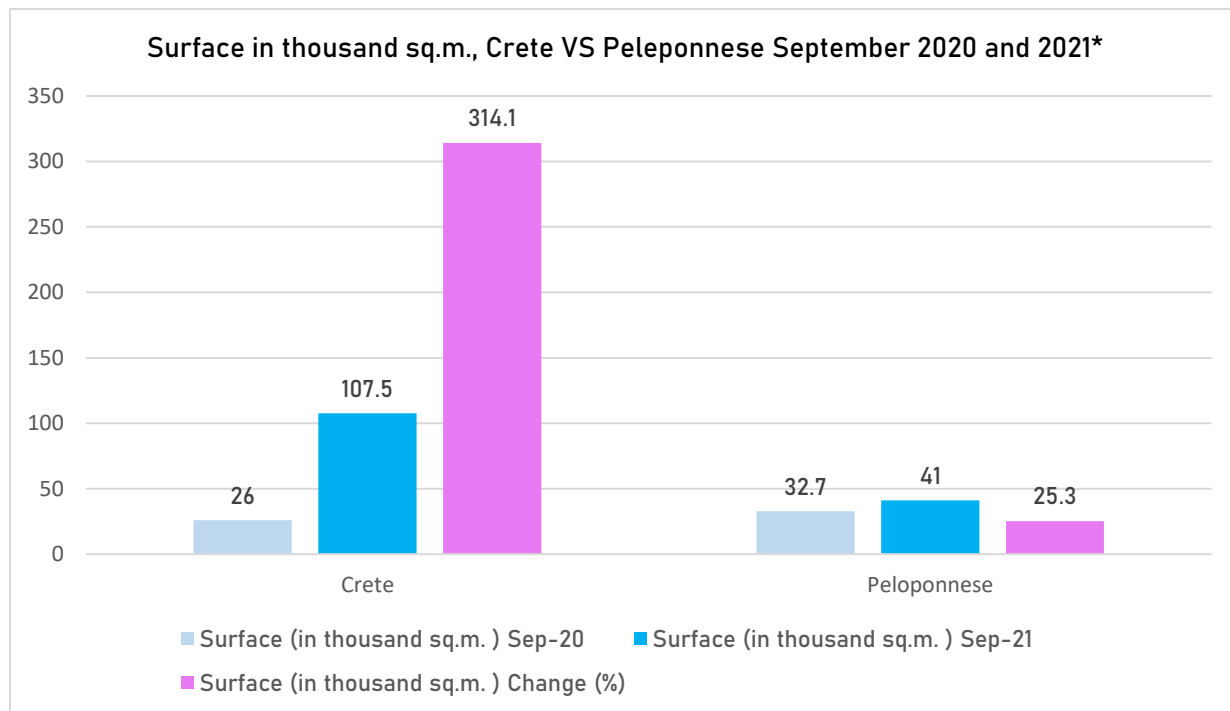
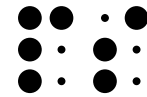


Table 2. Source: ARENCOS (Data source: Hellenic Statistical Authority)

# THE CONSTRUCTION OUTLOOK FOR 2022 IS LOOKING POSITIVE, BUT THE SECTOR WILL FACE CHALLENGES



The construction sector in Crete responded well during the pandemic and has come out strong in the post-recession recovery period. Total construction spending recovered and seems that will peak a record high (approximately 8% higher than 2019 average levels signaling consistent expansion in construction projects and real estate investments in Crete.

In a recent survey conducted by our firm, 82% of the respondents characterize the outlook for their investment portfolio as somewhat or very positive, 33% higher than last year.

Driving this business confidence is the expected strong performance of both commercial and residential construction projects.

Looking into the two segments in more detail, residential projects in Crete continued to stay strong despite the fact that construction materials have experienced significant rates of price increases and the spread of the coronavirus Delta variant.



The housing construction sector showed strong growth and also experienced noteworthy progress across both single - and multifamily new projects.

## **PURCHASE OF NEW BUILDINGS IN GREECE WITHOUT VALUE-ADDED TAX**

Greece suspends the VAT until 31.12.2022 for completed new buildings that have not yet been sold and for new buildings that are currently under construction.

Prospective buyers have the possibility to purchase new buildings without the particularly high VAT of 24% of the agreed purchase price and only have to pay the very low land transfer tax of 3% of the purchase price instead.

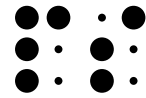
## **TIME AND COST OF OBTAINING BUILDING PERMITS AND LICENSES**

According to our research it requires 17 administrative procedures to construct a commercial project (considerably higher than the OECD high-income average of 12.7) and takes more than 200 days compared to the 152.3 OECD average. The average cost of completing these bureaucracies is marginally above the OECD high-income average, as it represents 1.9% of the warehouse value compared to 1.5% for the OECD high income average.

| Procedure  | Time to complete | Associated costs |
|--|------------------|------------------|
| Obtain proof of ownership, cadastral extract and cadastral plan  | 2 days           | EUR 45.0         |
| Obtain Topographical Survey map  | 10 days          | EUR 1,000        |
| Submit a petition for an archaeological clearance certificate  | 1 day            | no charge        |
| Obtain archaeological clearance certificate  | 12 days          | no charge        |
| Obtain approval of project from the Board of Architects  | 45 days          | no charge        |
| Obtain active fire protection approval   | 10 days          | no charge        |
| Obtain proof of advanced payment from the Unified Social Security Fund   | 2 days           | no charge        |
| Request and obtain initial permit/approval from the Municipality   | 16 days          | no charge        |
| Request and obtain building permit from the Municipality   | 20 days          | EUR 12,798.0     |
| Notify Archaeology Supervisory Authority of commencement of works and receive on-site inspection at excavation | 9 days           | no charge        |
| Obtain stamp from the police on the final building permit  | 1 day            | no charge        |
| Notify the Municipality of the commencement of works   | 1 day            | EUR 350.0        |
| Request and obtain foundation work inspection  | 1 day            | EUR 300.0        |
| Receive final inspection from Board of Building Inspectors and receive completion certificate                  | 5 days           | EUR 600.0        |
| Apply for water and sewage connection  | 1 day            | EUR 63.0         |
| Undergo investigation by the water company on the feasibility of the project                                   | 27 days          | EUR 1,070.0      |
| Obtain water and sewage connection   | 45 days          | no charge        |
|  |                  |                  |

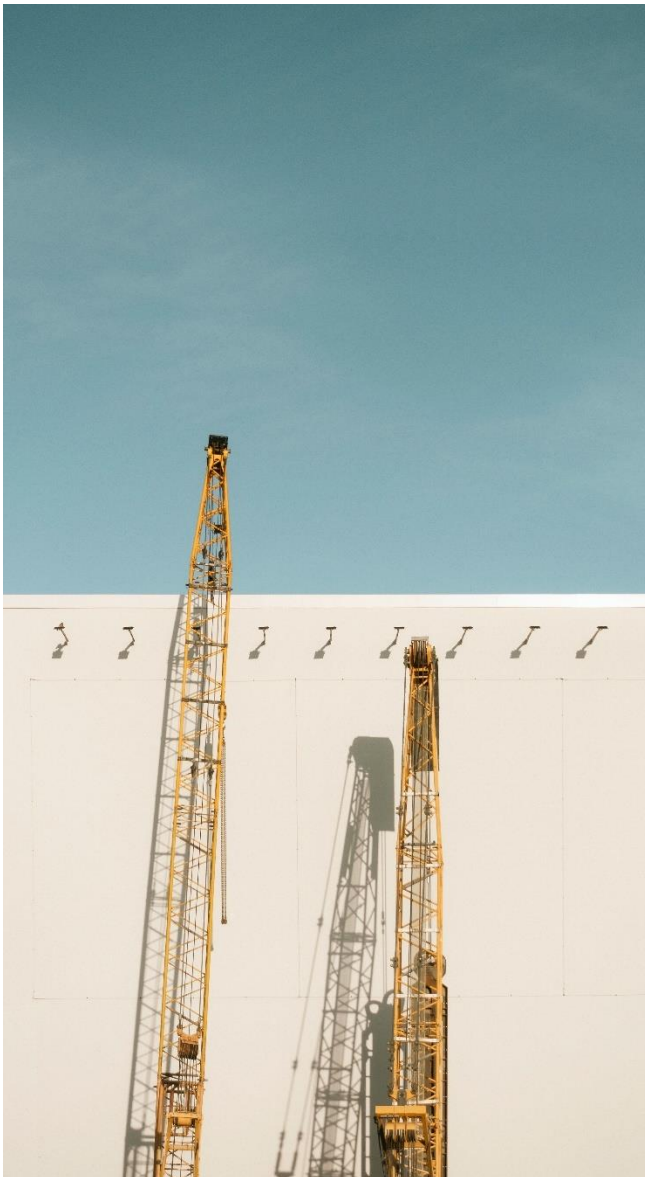
Table 3. Source: ARENCOS

# ONGOING SUPPLY-CHAIN ISSUES TO CONSTRAIN CONSTRUCTION ACTIVITY IN CRETE



Supply chain challenges and bottlenecks in building products and materials are taking longer than expected to normalize, limiting the construction sector's ability to fully benefit from strong end-market demand and grow interest.

The disruption is causing significant production delays and supply shortages affecting key materials such as lumber, paint and coatings, aluminum, steel, and cement, among others. Transportation costs, particularly for shipping, are also increasing.



An additional impact is the increased costs. During the second and third quarter of 2021, the prices of important construction materials prices observed double-digit increases every month. For example, the producer price index (PPI) for steel products increased by more than 170%, copper by 55%, plastic construction products by 35%, and lumber and plywood by 18%—all year over year in September 2021.

Among other things, our latest research about the issues affecting the delivery of construction projects in Crete, including barriers to innovation and the efficient operation of supply chains, identifies that:

- Proactive change management should be taken seriously in the project planning and design phases of commercial and residential construction projects.
- In addition, contractors should be proactive in managing processes and operations. Artificial Intelligence, Big Data and Business Analytics can help managers, suppliers, material management and contractors make better-informed decisions and develop alternate sourcing strategies to ensure minimum impact on projects.
- Construction firms in Crete should collect and analyze their project data where possible to support their decision-making and improve cost efficiency.
- Furthermore, the integration of digital technologies into the construction projects could significantly improve the overall process and establish high rates of success.

Optimizing supply chain management through robust governance and risk management practices is significantly important for the construction sector. Going through this strategically designed process helps to shift the focus from just in case to just in time and provides the opportunity to ensure that the supply chain planning is resilient.

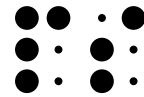


# CHANIA PROPERTY MARKET HISTORICAL DATA

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# NATIONAL AND REGIONAL BUILDING REGULATORY FRAMEWORK



The legal framework governing construction activities in Greece is constituted by the General Building Regulation (Γενικό Οικοδομικό Κανονισμό – Γ.Ο.Κ.), with ensuing amendments which establish the terms and conditions for the proper development of construction projects within or outside urban settlements, aiming at protecting the physical, natural and cultural environment.

A series of building regulations complementing the General Building Regulation contain provisions related to the classification of buildings, safety and resilience of structures, various structural elements (walls, openings, windows, etc.), basic facilities (plumbing, heating, elevators, etc).

Whereas spatial planning is governed by Law 2742 on Spatial Planning and Sustainable Development, urban planning is overseen by Law 2508/97 on Sustainable Residential Development. The execution of public construction work is defined by the Code of Construction and Public Works.

It details the requirements for carrying out the work, and the procedure for selecting contractors and award criteria, among others. The government introduced Law no 4178/13 on Tackling Illegal Building Works, Safeguarding Environmental Harmony and other Provisions.

It aims at putting an end to illegal construction activities (i.e., structures built without planning permission) and unauthorized uses of space (i.e., use of a space which is not consistent with the purpose originally declared in the building permit). Actions taken in this respect include a system of fines, prohibition of property transactions for assets containing illegal structures and requests for additional certificates of compliance during transactions.

The Control and Protection of the Built Environment law 4495/2017 (Έλεγχος και προστασία του δομημένου περιβάλλοντος) announced by the Greek government aims at simplifying and accelerating procedures for the issuance and control of building permits and reviewing the framework to tackle and sanction arbitrarily built housing. The law establishes a structure called the Structured Environment Observatory dealing with the control and quality of the built environment.

Moreover, the procedure for submission, control and issuance of building permits, and notification of execution of additional works, is performed exclusively electronically under the responsibility of the engineer and the approval is issued automatically, immediately after the submission of the required supporting documents, and data.

The building sector is of the utmost importance for energy savings. Therefore, according to the Greek government, renovations of existing buildings will be essential in reaching the energy efficiency targets.

The current institutional framework provides for energy-efficient buildings through compulsory partial use of solar heating systems in new buildings; renovation of public buildings with new heating and cooling systems and mandatory provision of new technology services and material and green procurement.

Specific incentives have also been announced by the Greek government for citizens and local authorities, including special financing programmes, tax exemptions and incentives for the substitution of conventional heating and cooling systems and permitting favourable building coefficient. respectively, an 11.2% increase in the number of building permits, an 85.1% increase in surface and an 102.3% increase in volume, compared with the corresponding month of 2020.

When determining the construction capabilities of the land plot, four key coefficients are applicable - building area, land-to-building ratio, coverage ratio, and the number of floors in a building.

- Under the permitted building area means the total area of all floors of the construction object. It is measured along the exterior perimeter of the building and does not depend on the number of its floors.
- The land-to-building ratio is established by law for determining the gross building area. It helps determine the permitted building area.
- The coverage ratio is expressed as a percentage, referring to the maximum area of the land plot which can be used for construction in Greece.
- The height of the building – the number of floors allowed for construction in a given region and a land plot. When determining this parameter, all floors are considered, including the attic and the socle floor.

# Outlook

The construction sector in Crete, Greece has made a significant recovery from a recession in 2021, but it has also experienced several significant headwinds that are expected to persist in 2022.

Labor deficiencies and supply chain disruptions have hit the sector hard, leading to project delays, increasing costs, and further investment problems. Simultaneously, business digitalization continues to make its way into the sector, making it important for engineering and construction firms to focus on developing data and analytics as a core competency.

In the years to come, foreign demand will likely continue to be the main driver of the residential and commercial construction sector in Crete, while the revival of the domestic market will be determined by Greece's ability to achieve sustainable growth that will create job opportunity and increase incomes.

The evolution of the residential real estate market in Greece is tightly linked with the demand for tourism related investments. Moreover, the recovery of the tourism sector will lead to further growth in housing prices and rental demand.

What should you be doing going forward?

The COVID-19 pandemic is definitely not just a short-term crisis. It has long-lasting consequences for how construction sector behaves and how supply chains function. Business continuity, safety and risk management in residential and commercial construction projects are very important to create a long-term business resilience for managing future challenges.

This requires knowledge sharing and value creation. Construction firms in Crete should consider developing an effective framework that includes a responsive and resilient risk management plan combined with fully integrated operational excellence strategies.

That synergy should be technology-led, leveraging platforms that support data analytics, artificial intelligence and machine learning. It should also ensure end-to-end transparency across the entire life-cycle of a construction project.

How can ARENCOS help?

We're here to assist our clients not only to design and develop their next project in Crete - no matter the size or purpose- but also provide dedicated services and tools to create responsive, adaptable and intelligent solutions that will build resilience for their commercial or residential projects.



To access more data about this analysis please communicate with the author of this document, Stavros Thomas via email at: [stavros@arencos.com](mailto:stavros@arencos.com)



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