

BOSNIA AND HERZEGOVINA

CONSTRUCTION INDUSTRY

PROFILE REPORT

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Executive Summary

1. Sector Profile

There has been considerable effort by the international community and the population of Bosnia and Herzegovina to repair the damage to the country's infrastructure caused by the 1992 – 95 war. Despite this, the numbers of people employed in the construction industry of BiH are less than the European average and there are fewer construction businesses registered in the country per head of population than in the EU15.

As with other economies, the construction sector acts as both a barometer of the nation's economic health and as an indicator towards future economic growth. Any increase in construction activities will impact on a wide range of other sectors of the economy and provide the impetus needed to make Bosnia and Herzegovina a fully economically independent nation.

The opportunity to increase the development of small-to-medium sized businesses in this sector is undoubtedly connected to liberalisation of the property market in BiH. Mortgages are now available to individuals through the reformed banking system and changes in the law affecting property ownership should change the emphasis in BiH from renting accommodation to that of purchase. With ownership comes the desire to improve the quality of domestic habitat. Privatised construction businesses, already in existence, can expand to meet increased demand with only a small amount of additional investment.

The speed of development of the BiH construction market is also dependent upon the strategic initiative to build a new four-lane highway between Budapest in Hungary and the Adriatic port of Ploče. As part of the EU transportation development programme, the Balkan section known as Corridor Vc will cross BiH from the north to the southeast, a distance of some 328 kilometres at an estimated cost of € 2,525 million. The construction of such a highway is well suited to the civil engineering sector of the BiH construction industry, which has a worldwide reputation for high-quality bridge building and tunnelling. Finance for the project is likely to come from a Public-Private Finance Initiative (PFI) in which construction costs are to be met from revenues that will accrue to the builders from projected user-costs over a period of twenty to 30 years.

Bosnia and Herzegovina has a developed large-scale construction industry, spanning design and structural engineering, building construction, civil engineering and building material production. This sector was involved in international projects before the outbreak of war in 1992 and had built a reputation for quality and reliability. Damage to plant and machinery that resulted from the conflict has left the sector with a need for more substantial invest, however, as infrastructure projects are now underway in the country the donor nations have aided recoverment by providing funds for the purchase of up-to-date equipment. Returning specialists, who have been working with international consortiums in major developments around the world, are bringing with them experience that can only enhance the practical training of the graduate engineers that have joined local businesses since 1995. The universities and technical colleges of BiH continue to provide degree-level courses in engineering sciences. Part-privatised and state-owned construction business are engaged in providing expert advice to both domestic and international projects, but the businesses themselves cannot take part in the formation of consortiums as there is no facility for providing the financial guarantees required through the banks in BiH, be these local or foreign-owned.

There has been some loss of skilled staff from the industry in much the same way as has happened in the EU. Without continuity of employment the able tend to move on to other roles, but it should be possible to attract a substantial number back to the industry for which they trained as, and when, more new-build construction projects find funding. Initially priority should be given to repairing the existing utilities and to repairing much of the housing stock that has been severely damaged. Building and Civil Engineering businesses formerly involved in international construction have used modern structural and logistics planning to help in this process.

Most building materials are readily available in BiH. Virtually all of the components needed to repair existing structures and to build new ones, ranging from motorways and airports to commercial premises and housing, are produced by BiH businesses. The few that are not made in the country require only modest levels of investment to develop. This sector of the industry also offers considerable scope for export development.

There are significant clusters of businesses in all of the major centres of population and commerce: Banja Luka, Bihać, Doboj, Sarajevo, Tuzla and Zenica. These are comprised of design and technical consultancies, building and civil engineering companies and building material manufacturers/suppliers.

2. Markets

The potential for growth in the Bosnia and Herzegovinan construction market is very high. After the war, priority was given to the repair and renovation of existing property and infrastructure. As a result, a substantial latent demand has developed among industrialists and the general population for new buildings. The means of funding this is becoming easier thanks to developments in the banking sector and a growing level of confidence in taking on medium to long-term debt. Large state-owned businesses awaiting privatisation want to be able to divest themselves of the social costs of housing, while retaining the services of their skilled workers. This is likely to further increase demand. With more purchasing power in the housing market, the level of activity in the building sector is expected to rise.

More opportunities for growth in the BiH building industry are to be found in the civil engineering sector, where there are a number of schemes in addition to Corridor Vc under discussion for major road, rail and energy production developments. These are large-scale construction projects requiring the creation of consortiums to carry out the range of tasks involved.

The European construction market has continued to grow despite of the economic downturn in Europe and North America. European construction businesses generally report that the demand for qualified project managers and construction engineers remains high, albeit with some fall in the very high fees that were being paid for such services in the Far East and in the Gulf.

In the UK, much of the continuing growth in expenditure on construction has come from an innovative approach employed by the government in the public sector. Rather than increasing the Public Sector Borrowing Requirement (PSBR), they have encouraging co-operation between public sector service providers and private financial institutions in the field of new construction. Under the Public/Private Finance Initiative (PFI), public service properties are being built with private finance and the facilities leased by the users for periods of up to twenty years. This, in turn, has released large areas of unwanted real estate to the developer market at realistic prices and the value thus released has been ploughed back into construction and service development, further reducing PSBR. This type of funding may well be applicable to the needs of BiH's strategic development.

Industrialised building has also become an issue in the UK market, as there is considerable pressure to provide low-cost accommodation for key public-sector workers in areas of high-priced domestic property (primarily in London and the Southeast). Competition for this type of construction is expected to come from other European construction businesses, including those located outside the EU.

Eastern Europe also offers opportunities for construction businesses to grow over the next few years. Hungary and the Czech Republic will be involved in substantial building programmes that could offer opportunities for partnership working. Hungary is experimenting with similar funding schemes to the PPP and PFI initiatives of the UK. North Eastern Europe has a need for industrialised housing construction to accommodate a growth in those seeking employment in new urban locations.

There is also substantial building development in the Gulf States and in the Lebanon, where new leisure-orientated construction is taking place as the countries develop a strategy of becoming major holiday destinations for the developed economies.

The international construction industry itself is changing with consolidation taking place among the world's top construction companies. Rather than compete with each other on price alone, they are resolved to develop niche markets where they could co-operate and reverse the trend towards ever-lower margins. The market for construction is forecast to grow by 10.4% between 2001 and 2005, but a scarcity of skilled labour is forcing up tender prices worldwide. As European construction businesses are smaller than their Japanese and American competitors, it is predicted that these are most likely to seek strategic partnerships or mergers, as they attempt to reduce corporate overheads.

3. Development of the BiH Construction Industry

The construction Industry of Bosnia and Herzegovina is evolving from its former command-economy structure to that of a fully privatised one. The process started before 1992, when a number of privately owned businesses were already established. Many of the large state-owned businesses were involved in projects in Germany, Iraq, Kenya, Kuwait, Libya, Pakistan and Russia. The industry as a whole had a good reputation for quality and reliability in the international arena.

The design and technical services of the industry have undergone changes following re-organisation of some of the public-sector organisations that formerly provided support to the state-owned and privatised sectors of the BiH construction industry. New part-privatised or fully privatised specialist consultancies have core competencies in bridge building, road and tunnel construction and can offer both design and supervision services to both domestic and international businesses.

The building and civil engineer sector businesses are experienced in a wide range of projects. There are increasing opportunities for them to join EU and donor-nation funded projects for new roads, railways and housing development in BiH. They are also capable of participation in construction projects in Europe and the Middle East. They are particularly well positioned to participate in the development of industrialised building initiatives, both at home and abroad.

There are numerous businesses involved in quarrying and mining raw materials for the construction industry and timber grown in BiH supports a well developed sub-sector that manufactures a wide range of construction industry ancillary products, such as doors, window frames and other timber-based components. Manufacturing of construction products covers almost every requirement except glass, which is currently imported. This can, however, be made in BiH if investments are made in plant that uses locally available materials.

The development of finance support to the consumer market in BiH has strengthened the potential for construction projects in the private housing sector. Changes in the law make it possible to buy land as well as buildings and this is open to foreigners who are prepared to set up commercial businesses in BiH.

Quality standards in the industry are uniform across all areas of the country and the industry is moving towards achieving conformity with the standards of the EU. Many businesses are seeking certification to ISO standards and are looking to implement the same environmental standards as are adopted in the EU.

In the raw material sector, high-value stone can be sold to markets in surrounding markets and into the EU. Foreign investment already achieved in the cement producers is aimed at developing export sales in neighbouring markets. Specialist processed products such as pre-stress reinforced concrete beams are also potential exports from an industry that is experienced in delivering such items to the international construction industry. Ultimately, BiH-based industrialised building businesses that manufacture complete homes from modern multi-layered materials that meet the increasing energy efficient needs of the EU will be able to establish themselves as major exporters. To do so effectively, they require partnerships with companies that are operating in the EU and in the Middle East.

4. SWOT Analysis

In preparing this profile of the construction industry, it was necessary to analyse individual sectors of the industry. The relative strengths, weaknesses, opportunities and threats (SWOT) have been examined for design and technical services, building construction and civil engineering, and building materials as separate and potentially stand-alone sectors of the industry in BiH.

All three sectors have experienced a loss of skills over the past decade, but it is possible to rectify the position either by investment in training, or by selectively raising the degree of automation in the each sector. A reduction in practical experience is most evident in design and technical services.

5. Informal Message

The construction industry of Bosnia and Herzegovina offers the widest possible range of opportunities for inward investment. These range from strategic partnerships with competent specialists in the design and construction of buildings and major civil engineering work, right through to the manufacture of material used in the construction industry. The ongoing programme of reconstruction of the country itself would be enough to justify interest, but the industry in BiH was fully integrated into the international construction industry before 1992. It has played and is continuing to play, a major role in the development of hydroelectric schemes, in the building of bridges, road, tunnels and urban development in countries as far apart as Russia and Malaysia. Many construction businesses in BiH have a history going back for the better part of fifty years and many were already privatised before 1992, when the war disrupted their established communications with the outside world. The process of privatisation is continuing, while some of the larger companies have already re-entered the tendering process for international contracts, in partnership with other international construction companies.

Investments can be made at a strategic level in:

- **the construction of new highways and railways within BiH,**
- **and/or in partnership arrangements for international contracts.**

They can also be made on a participation level in:

- **the erection of new properties in BiH**
- **and/or the manufacture of building materials.**

It is also possible to invest indirectly

- **by providing loan guarantees for those businesses involved in international tendering**
- **and/or in the provision of finance for property purchases in BiH**
- **and in education and training programmes aimed at bringing the management and workforce up to the best international standards.**

Legislative measures intended to widen the ownership of land in BiH and to reduce the length of time required in the planning consent process have recently been adopted. The outcome should ease the current situation associated with conflicting claims and speed up the development of new building projects. There is a high level of latent demand for housing and there are industrialists pressing for the erection of new factories and road network improvements to better service the economic recovery of Bosnia and Herzegovina.

The economic prosperity of Bosnia and Herzegovina is dependent upon the removal of any remaining financial and legislative barriers that could hold back the resurgence of the construction industry. The industry has the benefit of stimulating employment at home and of developing a favourable trade balance with the rest of the world.

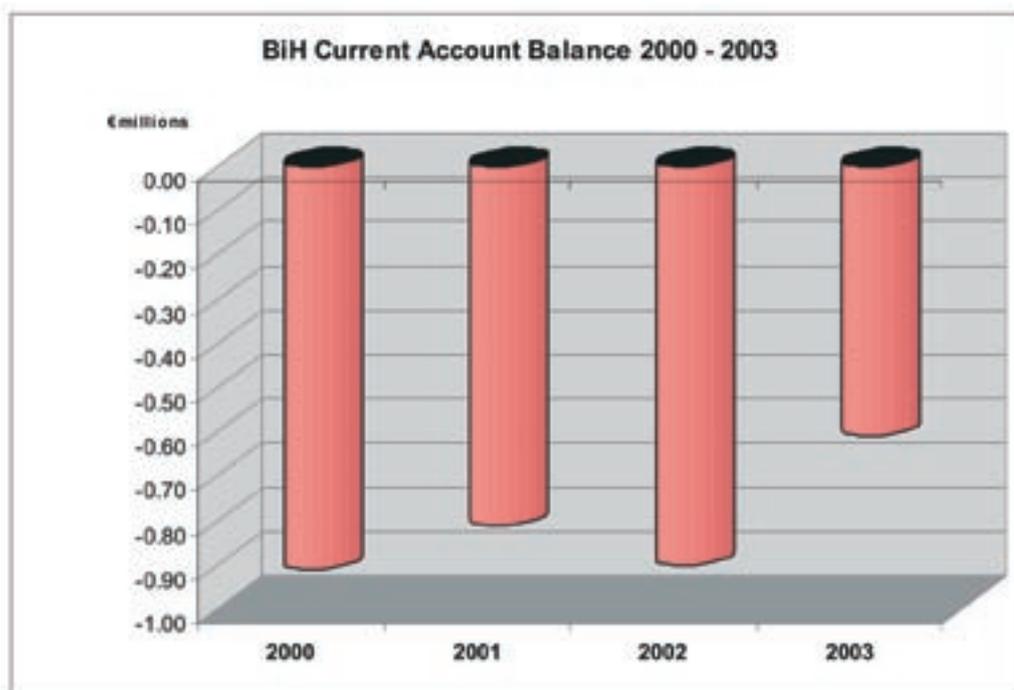


Chart 1, Source: EIU Country Report, February, 2002



Image: Cable bridge "Ostrožac"

1. Sector Profile

The war of 1992-1995 severely damaged the infrastructure of the country and the construction industry. This has limited the ability of the industry to regain its former position in the global market. Prior to 1992, there were a number of privately owned construction businesses in BiH and some of the large state-owned companies were involved with international construction consortia. Through such associations, the industry was able to keep abreast of technical advances in the rest of the world. The knowledge so gained was used in universities and technical institutions in the training of skilled workers for all sectors of the industry. The quality of the technical labour force was recognised throughout the world and BiH (as part of the FSRY) sent engineers to work in countries such as, Germany, Kuwait, Libya, Russia, Malaysia, Pakistan, Lebanon, Kenya, Iraq and India.

Today, it is currently estimated that there are some three thousand businesses in Bosnia and Herzegovina engaged in construction spanning all sectors of the industry. These employ approximately 100,000 people. Many of the businesses are solely involved in repair and renovation, but there are a significant number engaged in major building construction and civil engineering projects, both in BiH and abroad. Major road and railway development projects are planned for BiH. Some of the funding for the railway recovery project will come from the European Bank for Reconstruction and Development (EBRD) in the form of a € 21 million loan. The total project budget is set at € 56.4 million.

The proportion of construction businesses in the BiH economy, as a percentage of the total population, is only one sixth that of the fifteen member states of the European Union (EU15).

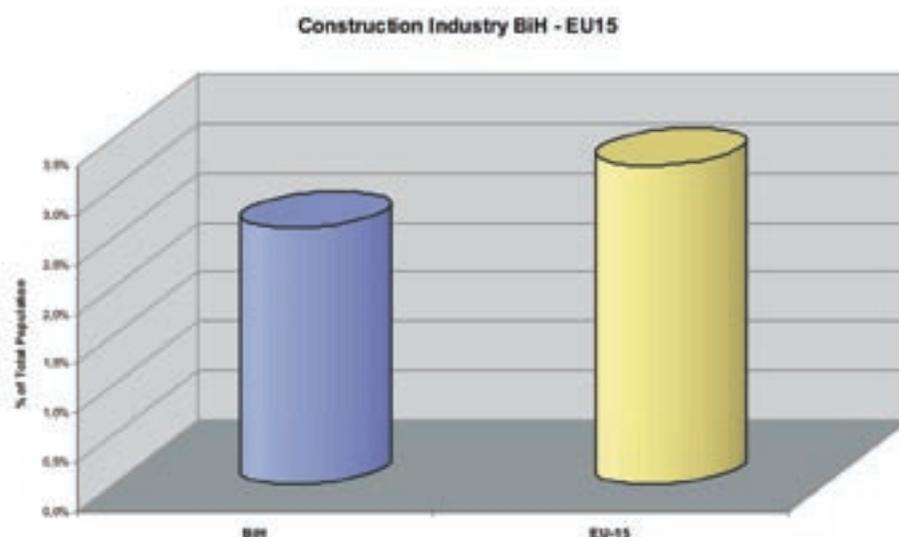


Chart 2, Source: Economist Intelligence Unit (EIU Country Report)

The number of people directly employed in the comparative industries indicates that the EU15 also employs more people in the construction industry as a proportion of population: 3.2% against 2.6% in BiH, while a further 4.4% of the total EU15 population is indirectly dependent upon construction for their employment.

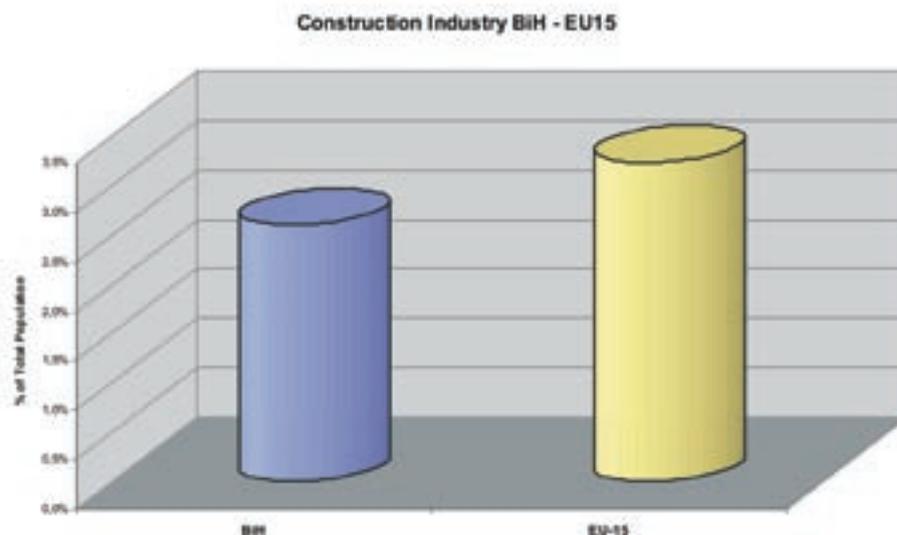


Chart 3, Source: Economist Intelligence Unit (EIU Country Report)

In view of these statistics, it would appear that there is considerable potential for the expansion of construction activities and employment levels in the BiH market in support of the population. The strategic importance of the construction industry to Bosnia and Herzegovina's economy however, goes far beyond those businesses directly involved in building construction and civil engineering: it acts as a tractor to the whole economy, creating opportunities for employment at home and opens up opportunities to favourably influence the country's balance of trade with the rest of the world.

The development of small-to-medium sized enterprises (SMEs) in the Europe Union is centred upon specialist services offered by businesses employing 10 or less staff. Many of these cater solely for the needs of their local communities, offering renovation and repair services to property owners. The rise in individual property ownership right across Western Europe has provided an impetus to the creation of such businesses. With the potential for private home ownership increasing in BiH, thanks largely to the provision of mortgage facilities by the banking system, it is likely that part of any expansion in the market will come from similar developments.

At the other end of the business-size spectrum, the major international construction contractors are facing consolidation through acquisition and are seeking to reduce their overhead levels in responses to fierce competition in the global trade. The impact of such consolidation will inevitably be felt in those BiH businesses that seek to work in the project sectors of building construction and civil engineering. Although the European construction industry has remained buoyant despite the down turn in international economic growth, the earnings of some specialist consultancies have been severely reduced. It is reported that fees paid to European Quantity Surveyors working on projects in the Far East fell by as much as 50% in 2001. The drive to reduce costs in the international arena may be beneficial for architects, structural engineers and quantity surveyors in BiH, who have qualifications that are recognised as comparative to EU standards.

1.1 Strategic Planning

Although much of the work carried out in Bosnia and Herzegovina since the ending of hostilities in 1995 has been aimed at repairing and renovating existing property, the Institute of Architecture, Urbanism and Spatial Planning (IAUPP) and the Institute of Transport Planning (IPSA) in Sarajevo have continued with their pre-war function of providing strategic resources for regional development planning. Today, IAUPP is working with the Institute for Urban Planning in Tuzla and with the civil authorities in Kosovo, in Croatia and in Slovenia. The ultimate objective of the work is to provide a five to 20-year physical planning document

for BiH. The institute's approach is multidisciplinary, encompassing a wide range of studies ranging from the geophysical to human demographics.

The necessity for a regional approach to planning is best illustrated in the proposal for the Balkan branch of the EU's TEN Network. The section referred to as Corridor Vc of the four-lane highway is intended to provide a connection between Budapest in Hungary and the Adriatic port of Ploče. The road is to be routed via Zagreb in Croatia and to cross into BiH over the Sava River, north of Odzak. The route through BiH, although not yet finalised, will connect the major industrial centres of Doboj, Zenica, Sarajevo and Mostar, before re-crossing the Croatian border at Opuzen on route to Ploče. Once completed, this access road will provide a corridor for economic development along most of its length. For Bosnia and Herzegovina's hard-pressed construction industry the construction of the road also offers a major opportunity for revival. Funding for the project will require innovation in the use of private investment in a public sector project. Long-term concessions over toll-charges based upon use may encourage foreign investment in the project and provide BiH civil engineering businesses with a further opportunity to re-establish themselves within the international construction industry.

1.2 Design and Structural Engineering

Bosnia and Herzegovina-based construction companies participated successfully in the world market prior to 1992 thanks largely to the development of technical institutes and design organisations both within the private and state-owned sectors of the industry. The specialist workforce provided technical input into international consortiums engaged in civil engineering projects ranging from the design and development of dams for hydro-electricity systems to road systems and bridges, and the production of construction equipment such as heavy lifting cranes. The ability to contribute to the success of such projects earned the former Federal Socialist Republic of Yugoslavia (FSRY) over € 500 million annually. A number of the specialists working abroad when the war broke out in BiH found employment with the international construction industry. Some of these are starting to return to the country bringing with them up-to-date knowledge about methodologies and materials that have been developed over the past 10 years. Much of the experience gained will be of benefit to those graduating from the universities and technical colleges, as they need to adapt to today's market needs.

1.3 Building Construction

As with other BiH industries, this sector lacked state-of-the-art equipment before the war and much of the plant that existed in 1992 was destroyed or became unusable over the period of conflict and through the disruption of the population settlement that followed. When rebuilding commenced, the purchase of new plant and equipment was not centrally co-ordinated with the result that the sector failed to build up a comprehensive range of new machines needed for the strategic renewal of the construction sector. Humanitarian aid agencies had different priorities to those of the sector and, as they were the prime providers of funds, the re-equipment programme was designed around their immediate goals. It is expected that as BiH's building construction sector moves to the next phase of urban renewal - new housing and new commercial premises construction as opposed to repair, it will require investment in key equipment that will redress the current imbalance.

Although there has been a loss of skills in this sector, there is a residual pool of labour that is capable of fulfilling the needs of the sector as and when new funding permits an increased pace of building. A higher level of technical equipment will be required to improve productivity in this sector.

Many of the new privately owned businesses in this sector are under capitalised. This allows them to compete on price against the larger state-owned or jointly owned businesses in the industry on unfair terms. They are able to survive on low margins, but they will not be able to meet the investment needs of the next phase in terms of cost-efficient equipment or adequately trained staff. It is likely therefore, that considerable consolidation will take place in this sector over the next few years.

1.4 Civil Engineering

The civil engineering sector or heavy construction sector has suffered in much the same way as the building sector, with possibly greater loss of equipment as many of the specialised vehicles were commandeered for military use in the war and subsequently destroyed or so neglected as to render them useless.

Funding of the reconstruction of utilities was initially handled by the humanitarian aid agencies, but as the nation turned to the rebuilding of roads, railways and to creating new highways, the donor nations (EC, USA, Japan and others) have provided a more strategically focused approach. The construction of eleven and a half kilometres of highway between Sarajevo and Zenica, which is the first section of Corridor Vc, has been carried out by two consortia. The first one consists of four local companies (Hidrogradnja, ŽGP, GP Put, Bosnaputevi), the second consists of one local (Jata) and one Slovenian (Slovenijaceste) company. It has required the purchase of new heavy equipment used in road building and bridge construction. Similar developments planned elsewhere in BiH will require similar investment priorities.

Many of the businesses involved in this sector are state-owned or jointly owned by public and private investors. They are also more involved in the supply chain to the industry and some overlap their work with that of the building sector. It is probable that they could also expand into the international construction industry as they did in the past, but currently they are unable to find the necessary bank guarantees for them to enter into tendering for major international projects. In order to gain experience in today's international market, they need to achieve strategic alliances with the dominant construction businesses of Europe, Japan and/or the United States. The lack of work for the larger construction companies is likely to lead to considerable restructuring and to consolidation once the privatisation programme is completed. Investments are most likely to be needed after these events, as the newly formed businesses develop their corporate strategies.



Image: Railway bridge "Sarajevo - Ploče"

1.5 Building Materials

BiH has abundant natural resources such as forestry, stone, gravel (aggregates), sand, clay and metal ores. These provide adequate support to a whole range of building material producers located in clusters around most of the centres of population. One notable exception exists and that is that no glass is produced in BiH, which leaves a sizable gap that is currently fulfilled through importing. Glass production requires materials that exist in the country, thus the gap could be closed, creating an opportunity for more local employment and wealth generation. A study on the potential to develop glass manufacturing was carried out in the Tuzla area of FBiH, providing suitable investment can be found.

1.5.1 Quarrying and mining

This is the primary source activity for much of the building material industry. Sand, gravel and clay deposits offer ready-to-use materials, while quarries provide stone, gypsum and lime. The mining industry provides bauxite for aluminium production and iron ore for iron and steel products. Both activities are running well below potential output levels due to low-level demand in the BiH market and problems with the transportation of bulk items by rail or road. The producers are effectively only supplying the construction industry located in their immediate vicinity.

1.5.2 Processed products

The cement producers in BiH are dependent upon the quarrying sector. Currently, their market is that of the local industry where they have no competition from importers as it is too expensive to transport cement from abroad. Although the local demand is expected to rise as new construction increases, there are plans in the recently privatised companies to expand the market for BiH produced cement to neighbouring countries in the short-term. Gypsum is only produced by one BiH business, resulting in undersupply to the market. This situation could easily be changed if investment were to be made in opening a second mine at Foča, in southeastern BiH. Such a development could lead to export market development in neighbouring countries. Currently, plasterboard and plaster-based profiles are made in BiH, or imported from Italy.

Lime for industrial use and for use in the construction industry is prepared in BiH. The capacity of 110,000 tonnes per annum (65,000 non-burned and 45,000 hydrated) is sufficient to meet current demands.

Clays from deposits near rivers and straw from BiH agriculture provides the basic requirements for brick and clay tile production. The local market absorbs all of the production of the businesses involved, using a wide range of different shapes and coloured materials for wall and paving construction. No one in BiH, however, currently manufactures clay roof tiles, although there is a demand for them. Those used in construction and repair are imported from Slovenia and Italy. A small amount of investment in new plant could change this situation to the benefit of BiH's balance of trade. Hollow bricks and the more traditional form are also imported from Serbia.

Asphalt for roads is prepared from locally quarried hard stone, such as granite, and imported tars. The petrol-chemical industry of Croatia provides the bulk of the required additives, although some tar and bitumen is imported from Hungary.

Ceramic tiles and pipes are produced in BiH from locally sourced materials. The two producers cannot, however, provide sufficient volumes to satisfy even the current low-level of demand, thus there is considerable importation of these items. Larger ceramic items such as sinks and bathroom fittings tend to be imported from the international market.

Although BiH smelts iron and aluminium, there is no facility in the country to further refine these metals for most industrial uses. The exception to this is that BiH does make reinforcing rods and meshes for ferro-concrete structures and steel wire is drawn by businesses located in two or three regions of the country.

Steel components, such as structural steel beams, and fixtures and fittings made from steel are largely imported or fabricated in BiH from imported materials. This also applies to steel pipes and rain gutters: both extruded and seamed.

Metal window frames and doors are manufactured from imported steel and aluminium. The BiH metal processing industry provides aluminium extrusions for the manufacture of such items.

Smaller metal items, ranging from nails and screws to door locks and hinges are produced by small engineering business in BiH.

The use of plastic components in the BiH construction industry is commonplace, however, these are all made from imported basic materials. uPVC is used in a wide range of components ranging from double-glazed windows and doors to groundwork pipes and connectors. The extrusion and moulding of these is carried out in the country, but the sector is also supported with imported products of this nature from Croatia.

Small volumes of electrical components are made in BiH ranging from conduit to control gear housing, but most industrial and domestic requirements for installation products (air-conditioning, heating, plumbing components and bathroom fittings) are imported, primarily from Turkey and the EU.

1.5.3 Timber-based products

The timber industry of BiH provides the materials needed for a range of construction industry sectors. Soft and hard woods are grown in BiH (53% of total BiH area is covered by forest) and these are provided to the industry as both semi-finished and finished products. BiH exports timber worldwide.

Joinery businesses in BiH use softwood for the production of roof frames and floor joists, window and doorframes, doors and architectural items such as architraves and skirting boards. Hardwood doors, window frames and windowsills are also manufactured in BiH, as are wooden blocks for parquet flooring. The flooring is also exported to many parts of Europe. Some imported products can also be found in the domestic market, such as cheap doors and profile timbers that have a synthetic coating and are made in Poland.

BiH timber producers provide a wide range of panel products: chipboard, hardboard, plywood are readily available. A new plant has just been established near Sarajevo to produce medium-density fibreboard (MDF). BiH sawmills also produce sawn and planed timber section materials

Timber is also used for concrete casting. Known alternately as carcassing or shuttering, it is fashioned into complex shapes on building sites that allow wet concrete to be moulded to form walls and structural components of bridges and viaducts.

1.5.4 Cement and Gypsum-based products.

1.5.4.1 Concrete

Concrete made in BiH is also used to make paving slabs, concrete blocks for walling and for moulded tiles for roofing. Other materials are added to these either to reduce their weight or to increase their strength. These include light-weight concrete block in various shapes and sizes that have been made up with a silicon dioxide content that is then burnt out during a heating process. These can be dry-laid and filled with concrete and/or linked together with iron rods to increase the strength of the resultant walls. Many of these products are made under license from Scandinavian manufacturers, although some are locally developed.

Producers of pre-cast concrete lintels and reinforced concrete beams use timber frames and/or metal

moulds in the manufacturing processes. There is an established export market for BiH pre-stressed beams made of concrete and steel in the construction of bridges and similar structures.

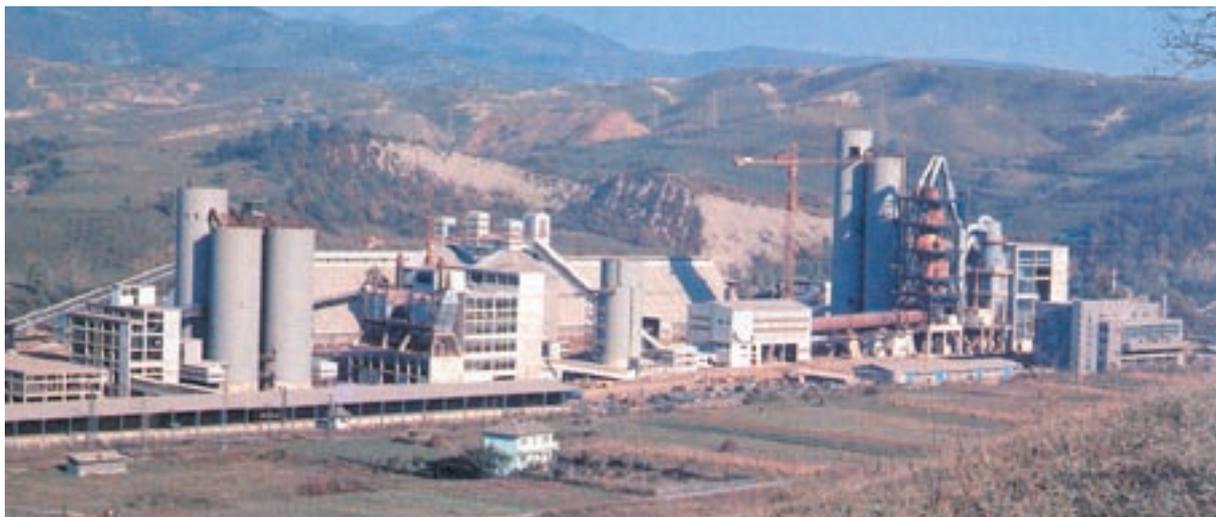


Image: Cement plant "Kakanj", Kakanj

1.5.4.2 Gypsum Boards

Gypsum is used to manufacture plaster products such as plasterboard for dry lining of interior walls. Most of the material used in BiH is manufactured by one company, which cannot satisfy the market's needs. Some material of this type is imported from Italy.

1.5.5 Plastics

Water supply pipes are manufactured in PEHD by two businesses in BiH in diameters up to 350 mm. Another company also produces drainage pipes in uPVC.

Styrofoam insulation panels are produced in BiH and exported to Yugoslavia (Serbia). Combined expanded styrene and straw panels made in BiH provide a cheap and effective insulation material for lining cavity walls. Waterproof bitumastic roofing and damp course materials and polythene-based ground sheeting are made in BiH.

1.5.6 Coatings

There are several manufacturers of finishing-coat material (paint) manufacturers in BiH however they are producing their product ranges from imported constituents. There are many of the raw materials required for the production of such products available in the country, but it is questionable whether it economic to do so in view of the competition in the market from established international coating companies. There is a potential to develop a base for the international industry in BiH at some stage in the future.

1.5.7 Quality Standards

All materials used in the BiH construction industry are subject to test requirements. These can be accepted against manufacturers' certification of quality and conformity, or they need to be submitted for testing and approval by building institutes attached to the universities. There is no national test institute of the kind found in most EU countries, but the standards used are those of the former FSRY. Four organisations authorised to issue ISO certification exist in BiH, but few construction businesses have yet to achieve this level of co-ordination with the EU to date. Three or four notable exceptions exist in the private and in the partially

state-owned sectors of the industry, which have worked with certification organisations based outside BiH. Regulations affecting building construction materials used in BiH are somewhat less demanding than those affecting civil engineering sector, where all component materials must be submitted for testing and approval obtained from authorised test-laboratories attached to the Institutes of Architecture and Structural Engineering before they can be used on site.

1.5.8 Construction Equipment

The engineering industry of BiH has considerable experience of building equipment such as cranes for use in the construction industry.

1.5.9 Industrialised Building

Complete domestic dwellings are produced using a range of materials that can be delivered and erected on prepared sites. Systemised pre-cast structures are also available for commercial, industrial, sports, leisure, and housing construction projects.

1.6 Representative Company Profiles

Hidrogradnja Company is a partially privatised civil engineering and general contracting group of businesses, employing over 1,400 staff in all sectors of the construction industry, including those working in international construction projects in Croatia, Germany, Greece, Jordan and Malaysia. Founded in 1947, when the first hydroelectric dams were constructed in Bosnia and Herzegovina, the company has gone on to participate in over 800 projects worldwide. The company was rated as number eight in the world's top 10 water construction businesses in 1990. The business has over 40 years of experience of working in the Lebanon and in Libya, across a broad spectrum of building projects and well as extensive in the various states that made up the former Federal Socialist republic of Yugoslavia.

In addition to construction, the business offers computer services, including database management, design and management services, including project investment programmes, equipment maintenance and repair services, including all forms of motor transport. The company also represents a range of foreign businesses actively engaged in selling to the local market.

GP Krajina, Banja Luka has recently been privatised, having been founded in 1945 as a state owned business. It has 800 employees and is involved in building construction, civil engineering and in the production of building blocks and pre-fabricated concrete sections. The business can provide a full range of services to its customers: design, project supervision, construction, mechanical and transportation support, and legal, economic and financial services.

The business has built apartments, offices, factories and shopping centres in the former FSRY, in Russia, Algeria, Iraq, Libya and Germany. The company's IMS system of blocks and prefabricated sections permits the rapid construction of high-rise apartments and has been used successfully over many years.



Image: HPS HADITHA

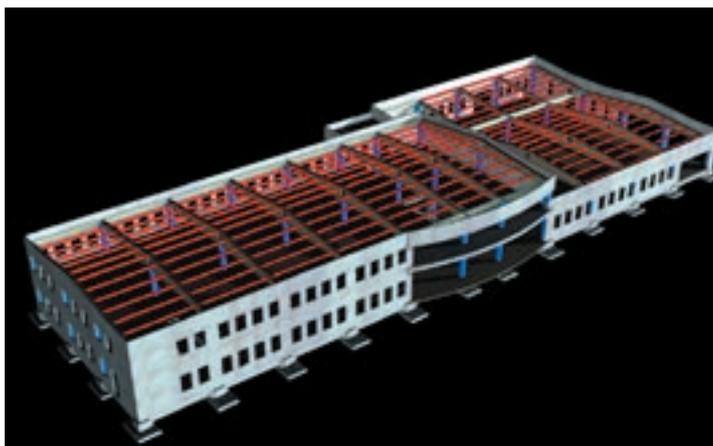


Image: Construction System with precast elements

Europe. Pre-fabricated concrete structures are the core products of the business, but it is planned to start production of pre-stressed concrete and steel construction components shortly.

ŠIRBEGOVIĆ Holdings, Gračanica is a privately owned company, founded in 1990. Currently, it has 450 permanent employees and up to 150 seasonal workers, making the business one of the leading building construction companies in Bosnia and Herzegovina. The business is experienced in all aspects of project management, design and construction.

They have been involved in more than 200 projects in all of the countries from the former Federal Socialist Republic of Yugoslavia (FSRY). The management is now planning to extend its market to countries in Eastern

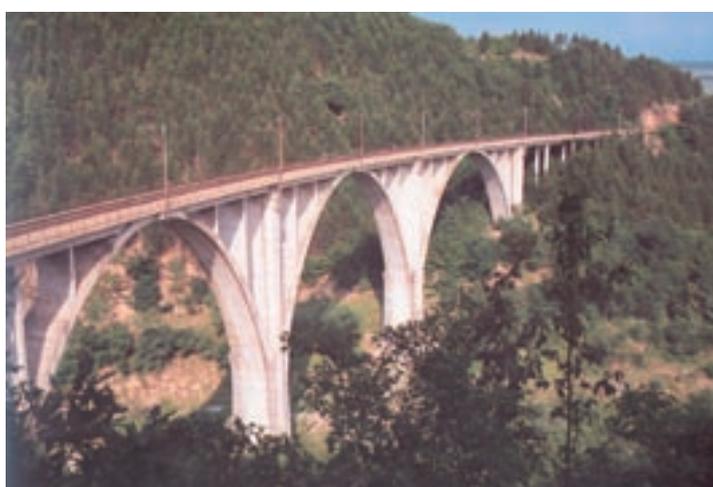


Image: Railway bridge: Sarajevo - Ploče

ŽGP, Sarajevo is a fully privatised civil engineering business founded originally in 1947 and is one that is held in high regard for its expertise in bridge building and in tunnelling. The company, which has 600 employees, has undertaken over 75% of all infrastructure repairs in BiH that have involved the repair of old bridges, or the construction of new ones since 1995. Although primarily focused upon civil engineering projects, the company has been responsible for a number of building projects including the erection of the Holiday Inn in Sarajevo.

Due to the expert knowledge held by the business and its workforce, it is likely that ŽGP will be heavily involved in the construction of

the strategic highway known as Corridor Vc as soon as this obtains the necessary funding to go ahead.

Unigradnja d.d. is a fully privatised building construction business largely operating in the Sarajevo Canton, but with ambitions to become a nation-wide company. Currently the business employs 350 full-time workers and some seasonal staff. The business was started as a partially privatised building construction company before the 1992-1995 war, but the new business came into being in 1996. Since its re-establishment it has worked closely with the humanitarian aid agencies on repair and renovation contracts and on new-build developments including the headquarters of SFOR and the prestigious automotive showrooms of ASA-Auto in Sarajevo, the distributors of V.A.G. products. Much of the funding for its work has come from the EU and it has had to provide extremely competitive prices to obtain the work.

The business is focused upon the building of apartments in the Sarajevo Canton as the demand for accommodation is increasing, however, the directors are equally aware that if recovery of the economy is to be sustained it is also necessary to provide new commercial and industrial buildings at the same time as new housing development takes place.

AB Technics, Sarajevo is a fully privatised installation business employing over 300 staff. It is one of the leading specialists, if not the leading company in BiH, in installing a wide range of utilities (water, electricity and gas), central heating and air-conditioning into commercial, domestic and industrial developments across the whole country. It has a design facility for this work and is currently exporting both detailed plans

and physical products to neighbouring Croatia and Montenegro.

The manufacturing arm of the business has to import most of its production materials from abroad, as few of these are available from BiH sources. The items imported include electrical cables and wires and sheet and profiled steel products.



Image: Apartment Building "Starčevića", Banja Luka

Integral Inženjering, Banja Luka is a privately owned business that spans a wide range of industrial activities including construction. It was founded in 1999 and currently employs 250 full time staff and uses around an additional 600 from sub-contracting businesses involved in the building construction, civil engineering and allied trades. The core strength of the business is in civil engineering, ranging from planning through to the physical construction of roads, bridges and hydro-engineering structures such as reservoirs, water supply systems and drainage. The business has successfully completed projects for the World Bank, the EU, SFOR and other donor-nations in BiH. It is currently working with foreign investors in road construction in BiH and in joint ventures with companies from Slovenia, Austria and Switzerland. It is possible that they will accept an offer of partnership from an Hungarian business, with which they plan to develop a road construction business that can operate worldwide.

Krivaja d.d. Zavidovići is a large state-owned conglomerate business employing 3,800 staff and is involved in a wide range of construction related activities. One division, based at Zavidovići employing 180 staff is engaged in industrialised building, manufacturing pre-fabricated houses. Combinations of materials are used in production, although they are predominantly made of wood. Currently these are sold in the BiH market and are exported to Croatia, Slovenia and Yugoslavia (Serbia and Montenegro). The business is only using between 30 and 40% of its capacity at this time and wishes to extend their export trade into the EU and Eastern Europe, but is unable to fund the necessary level of sales promotions to do so directly. They hold a certification of quality and conformity issued by a test house based in Stuttgart, Germany. Ideally, they require a partnership arrangement with a similar business based in the EU.

ITAL, Milići, is a partially privatised business employing 120 staff involved in prefabricated components for use in building commercial, industrial and accommodation constructions and in manufacturing complete prefabricated houses. Exports are currently limited to Yugoslavia (Serbia and Montenegro), but the business is in the process of achieving certification from the same test house as Krivaja, after which it hopes to sell to other markets. Other BiH industrialised building businesses manufacturing pre-fabricated houses include Promo, based at Donji Vakuf.

JATA, Srebrenik is a privately owned company, founded in 1990. The company currently employs 150 full-time staff and the number of employees has the increasing trend. The core business of the company is civil engineering, ranging from local and regional roads to participation with four other Bosnian and one Slovenian company in the construction of 11,5 kilometres of highway between Sarajevo and Zenica, which is the first section of Corridor Vc. The company was involved in the reconstruction of the Tuzla Airport runway and in some other infrastructure reconstruction projects. Future plans are to expand activities on the entire BiH market. The ability to apply new technology is one of the key advantages of this company.

Termont Company, Banja Luka is privately owned and employs 80 full time staff. The business's activities include the construction of high-rise buildings and water infrastructure plants. In addition, there is a factory at Drvar manufacturing joinery components for the construction industry.

The focus of the business is BiH, where it is working in joint ventures with other BiH-based businesses. There have been efforts to tender in the international market, but as no banks in BiH are prepared to support bids with the necessary financial guarantees, there seems to be little hope of developing export business for the foreseeable future.

BINIS, Banja Luka is a privately owned company that was founded in 1990. It employs approximately 60 full-time staff in the production of concrete-based products for the construction industry. The equipment is computer-controlled and represents up-to-date technology in the production of ready-mixed concrete, concrete pipes (150 to 1,600 mm diameter), pavement blocks and curb stones.

They have a capacity for concrete of 60 m³ per hour and use vibrating presses to eliminate air from the moulded blocks. These are sold all over BiH and to neighbouring export markets.

POIN, Sarajevo is a privately owned business, founded originally in 1968 as a craft workshop and registered as a company in 1989. The company, which has thirty-five permanent employees and almost the same number of seasonal workers, is involved in design consulting, engineering and complete development of apartments, commercial and industrial facilities. The primary focus is on the construction market of Canton Sarajevo, but the business is also involved with some projects in Kosovo. The business has started to build apartments for the private sector of the BiH market.

Traser Roads and Bridges Company, Sarajevo is a partially privatised business specialising in the design and supervision of civil engineering projects. The company has 32 permanent staff and recruits engineering graduates at BSc level from the universities of Mostar and Sarajevo in the Federation of Bosnia and Herzegovina (FBiH). The design facility is fully computerised and uses internationally recognised software programmes that enable the business to integrate its work with EU and other international businesses involved in similar projects.

The business has worked with the French civil engineering construction company Louis Berger in designing and supervising the construction of a new bridge across the river Una in BiH. It is also involved in a twelve-month study of the road network in BiH with the Danish consultancy Cowi. The company is the national repository for road plans in BiH and holds details of the dates of construction and the composition of materials used in both building and the repair of highways.

Plan d.d. of Sarajevo is a fully privatised architectural consultancy; the only one of its kind in BiH, that offers concept designs and technical support on a wide range of building construction projects. The business is not a design bureau, but one that employs twelve full-time staff, most of whom are qualified architects.

The business is involved in a wide range of new-build projects ranging from the detailed specification of the new national library to be built next to the old town district of Sarajevo, where it has been designed to blend in with the ancient buildings that will surround it, to new prestigious office blocks and low-rise private housing.

2. Markets

2.1 Background to the BiH Construction Market

In the aftermath of the war in Bosnia and Herzegovina, the first priority of the international community was to restore the utilities and to repair roads, airports and housing in the major urban centres. Funding for this work to be carried out by local construction businesses was not co-ordinated centrally, but arrived in the form of humanitarian aid grants that permitted the purchase of both materials and equipment to carry out the immediate needs. Once the first wave of repair and restoration was completed, funding passed progressively to the donor nations and was delivered primarily in the form of soft loans to the government of BiH.

Most construction businesses lost at least 50% of their plant and equipment during the war and a substantial part of the skilled workforce emigrated to safer countries. This has left an imbalance in the industry and a gap in the experience level in the workforce. Today, there are probably too many unskilled workers available and too few semi- or fully skilled technical staff. The universities are continuing to provide graduates with engineering skills, but the ten-year gap in involvement with the international market has created some shortages in specific fields, particularly those where there have been major product changes such as in finishing materials.

BiH is preparing to start on a series of major civil engineering developments involving the strategic transport corridor for Southeast Europe (Corridor Vc), new inter-city roads, new energy generation and distribution plants and, eventually, to build links to the European motorway system. BiH also has to build new housing for a growing population: both for the generation that has grown up after the war and for the increasing number of citizens returning from abroad. The banking system reform is complete as far as the provision of European standards for mortgages is concerned, so the purchase of property is a realistic potential for an increasing number of the population. The funding of civil engineering projects however will need to be negotiated by the government of BiH with donor nations. It is reported that Siemens AG are already funding a strategic study in the central regions of the Republika Srpska covering all aspects of utility provision. Similar opportunities exist in other regions and cantons of BiH for foreign investors to take a major role in developing the country's infrastructure.

It is significant that in a recent survey of BiH construction companies carried out by the Southeast European Enterprise Development agency (SEED), all of those participating in the Federation of Bosnia and Herzegovina (FBiH) reported that sustained profits were achieved over the past three years, while over three quarters of those in the Republika Srpska (RS) reported the same. A number of these companies are involved in the international construction industry, providing project management teams on a contract basis to projects in Croatia, Libya, Malaysia, Pakistan and Turkey.

2.2 European Construction Market

It is estimated that investment in construction in the EU15 market in 2000 was worth € 852 billion. This represented 48.5% of the gross fixed capital expenditure and equates to 10% of Gross Domestic Product (GDP). It is estimated that there are 1.9 million enterprises involved in construction within the EU. The vast majority (97%) have less than twenty operatives – 93% employ less than ten people. Due to the size of the industry, however, this amounts to over 11 million individuals, some 7% of the EU's total workforce and 28.5% of the industrial sector. It is estimated that over 26 million people are dependent either directly or indirectly on construction, making the construction industry Europe's biggest industrial employer.

Despite the downward trend in industrial output and in trade throughout 2001 and into the first half of 2002, the EU's construction industry reports increased activity levels and improving profitability in most of the national markets.

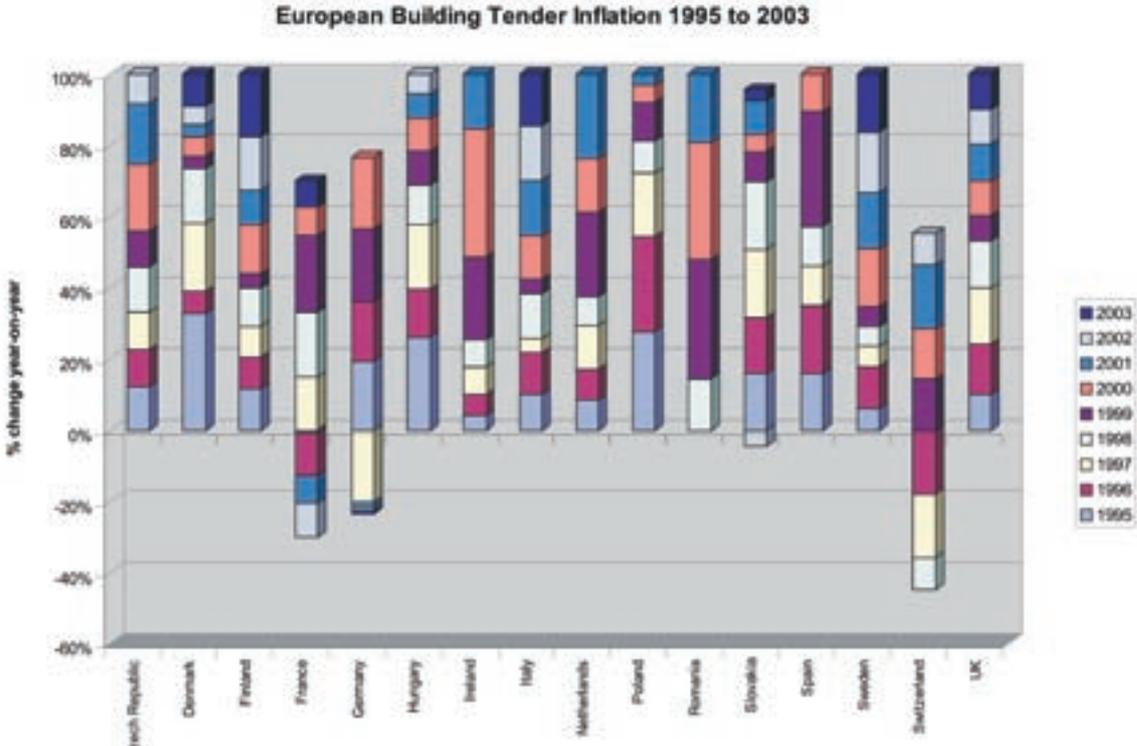


Chart 4, Source: Gardiner & Theobald Inc, March 2002.

This outcome is contrary to what was being forecast as late as December 2001 (see chart on following page). At that time, Euroconstruct (the European construction industry’s representative body) was inclined to play down any notion of growth before 2003. This was due to an overall reduction in house building (the biggest single sector of the industry in Europe) and reduced GDP growth forecasts by most of Western European governments. Their forecasts showed that only infrastructure projects were rising in value across Europe compared with twelve months earlier.

The Eastern European market was showing optimism for growth earlier in 2002, particularly in the Czech Republic and Hungary, where the annual change in construction output was predicted to grow by 5.4% 2001/02 and 6.4% 2002/03, respectively. Poland, by way of contrast, is predicted to see a reduction in construction output by 5.5% in 2001/02.

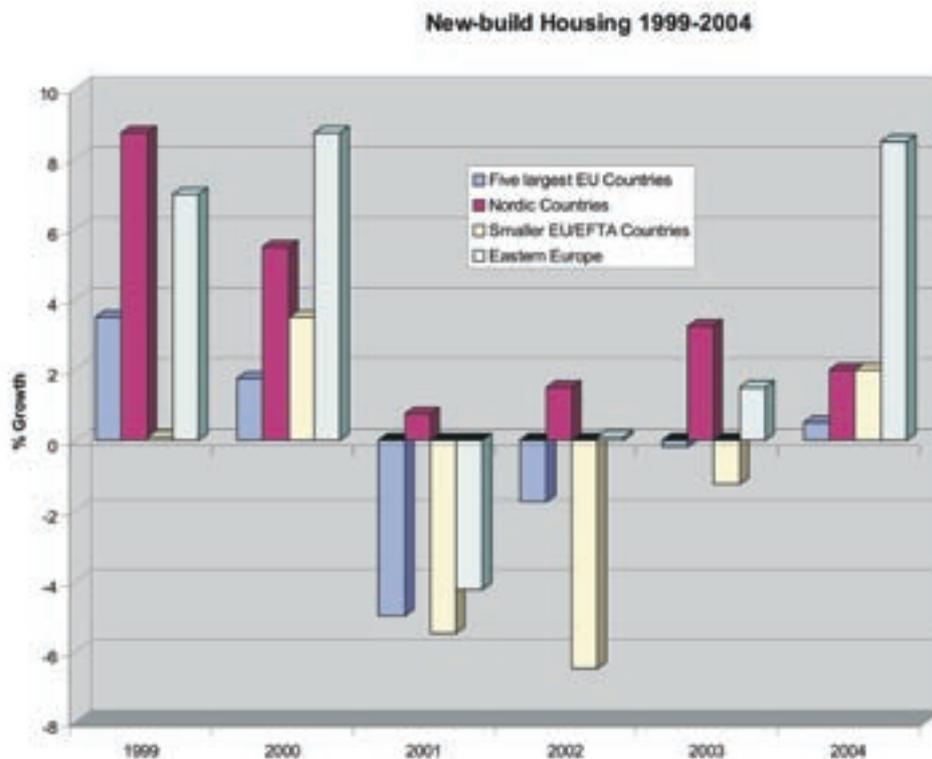


Chart 5, Source: Building Intelligence, December 2001

2.3 Market Changes

2.3.1 UK Government Sponsored Reform and New Funding Initiatives

The value of the UK's construction industry output in 2000 was estimated at € 110.5 billion (13% of the EU15 total), up from € 87.7 billion in 1996. New construction accounted for 54% of this figure, while repair, maintenance and property improvement accounted for the remaining € 40.3 billion. The market is divided into four main sectors: private commercial development, private housing development, infrastructure and other public sector development including housing and private industrial development. Private commercial development (offices, hotels etc.) is the largest sector for new construction, but the repair, maintenance and improvement (RMI) for existing property is the largest single sector overall. There were 165,661 businesses registered in this sector in 1999.

The UK construction industry is one of the world's leading international developers. Businesses such as Amec, Amey, Balfour Beatty and Bovis Lend Lease are involved in multi-national consortiums providing a global service to the developed and developing economies. In 1999, they earned over € 5.4 billion from overseas contracts. The average annual turnover of UK-based civil engineering companies was € 287 million in 1999, with profits before tax averaging € 12.1 million (4.2%). The multi-nationals, such as those mentioned above, produced turnovers many times greater than those of the businesses involved solely in the UK market.

The industry is undergoing fundamental changes to meet the challenges of today's market. In particular, it is learning to be less confrontational in its attitude towards its suppliers and in its dealings with sub-contractors and to actively seek strategic partnership arrangements both within the UK and abroad. Stimuli to do so is coming from two different areas: high-level government reports that have made it clear that the industry has to improve against key performance indicators (KPI) and there is a marked fall in the availability of skilled labour. The government's initiative includes a quality scheme aimed at providing customer assurance and

the promotion of prompt payments to suppliers and sub-contractors by the major contractors to prevent the collapse of the industry sector through recurring bankruptcies. The UK government has been able to deliver both the threat of punishment and an incentive to the industry at the same time: through the threat of legal action against businesses that fail to maintain acceptable standards of business conduct and through an innovative finance arrangement for the public sector.

Unique to the UK's construction market has been the development of public-private partnerships (PPP) and public finance initiatives (PFI), which have had the effect of blurring the boundary between private and public sector construction work. Much of the new building work taking place in support of changes in the way healthcare is delivered in the UK is being privately funded. Hospitals and health clinics are built using private capital and these are leased from the developers for fifteen to 20 years rather than being built using state funds. This has the advantage of reducing the government's public sector borrowing requirement (PSBR), which would affect the value of the currency and ensures that the public services are not going to be obliged to continue to maintain premises that have become unsuitable for their purposes over time. A considerable amount of development land is also being released as old hospitals are closed down, much of which is in or near city centres. This facilitates the redevelopment of whole urban areas, while the former mental and 'fever' hospital sites at the edge of towns are opening new housing and commercial development opportunities without further extending urban development into the countryside.

Similar PFI-funded developments are underway for infrastructure projects including toll motorways, the railway system, airport, docks and the London underground railway system.

2.3.2 Industrialised Building

The UK is one of a number of countries in Europe that is faced with increasing levels of scarcity of skilled labour in the construction industry. This has happened at a time when there is increasing demand for inexpensive housing for key public-sector workers, such as nurses, teachers and doctors in expensive city centre locations. The need to provide modular buildings to house these key workers has increased interest in the industrial construction of both complete dwellings and individual units such as bathrooms and kitchens that can be delivered to sites as finished units and 'slotted' into the frame of high-rise accommodation blocks.

Although industrialised building techniques have existed for many years throughout Europe, this sector of the industry has remained under financed and undersold as a means of providing housing as well as commercial and industrial buildings. Wooden framed buildings have been regarded as temporary structures and there are few steel structure businesses capable of producing this type of product. Changes in the standard of insulation required in new constructions and new forms of concrete have given the industrialised building sector better materials with which to approach the market. In response to the urgent need to find housing for key public sector workers in areas where the purchase of private accommodation is impossible due to the earning requirements for mortgages to buy property, there is an increasing number of projects using this approach. The low-level of capacity to manufacture the units, combined with a shortage of equipment to handle large structures on building sites, is holding back the development of the market.

2.3.3 Eastern Europe – Mixed Fortunes

Hungary is experimenting with similar innovative funding schemes to reduce the anticipated burden of debt that may follow in the wake of its accession to the EU. The country boasts the fastest growing economy in Europe and has a robust construction market in which retail and leisure development are doing well. Capital-intensive civil engineering projects are also underway with the building of a third terminal at Budapest's international airport and a railway connection between the capital and the airport. Joint venture working is being encouraged in all sectors of the industry, with one Austrian contractor, Strabag, working successfully with local businesses. It is also anticipated that accession will bring with it European Investment Bank (EIB) funding of new transport corridors.

Foreign investors are being sought by Poland's construction industry in anticipation of an uplift in activities in 2003. The decline in construction output has been felt across the economy as a whole, although at € 20.8 billion it only represents 5.6% of GDP. It is reported, however, that Poland and the other countries of Northeast Europe are in need of prefabricated accommodation units to house their rapidly growing populations.

The Czech Republic's anticipated growth in construction activities may have been put on hold following this summer's extensive flooding. The country's largest construction group Metrostav was to have built an extension to Prague's underground railway, but much of the existing system has been destroyed by the rapid ingress of mud and water. There may also be a need to postpone the building of a new motorway at Lipnik in the north of the country by the Israeli contractor, the Shiran Group.

2.3.4 Middle East – Rapid Development Despite Tensions

Another market that is showing resilience in spite of the down turn in world trade is that of the Middle East. In the Gulf States and in the Lebanon, the development of leisure-centred construction is growing rapidly. Dubai benefited from the investment of € 44.5 billion in 2001 in new construction projects. In May 2002, the pace is even faster, with 278 multi-storey buildings under construction in the municipality alone.

Irrespective of the international tension surrounding the Israeli/Palestinian conflict and the potential of an Iraqi/US war, the countries of the Middle East are pressing ahead with their drive to become a major tourist destination before the benefits of oil run out. Similar levels of construction activity are to be found in Abu Dhabi, Doha and Beirut.

2.3.5 Other International Markets

Other markets for construction projects around the world are open to foreign competition, such as the development of rural and semi-urban housing in the Republic of South Africa, but many of the countries involved also require substantial investment in their own economies as part of the development package. BiH businesses may only be able to secure entry to these markets as the technical partners of multinational consortiums. Despite a high reputation for consistency in quality and for reliability, construction businesses located in BiH have no backing from the banks in the form of guarantees required by the international construction industry. This is preventing most from re-entering this market, which is essential to the continuing development of the construction industry in BiH.

2.4 Industry Changes

Consolidation is taking place at the top of the construction industry, as the larger international groups turn towards niche markets for their services. This will inevitably reduce competition and, hopefully, will increase the profitability of the industry as a whole. The international market is forecast to grow in value by 10.4% between 2001 and 2005, with the peak of growth being achieved in 2002. The European construction industry is represented by a number of large businesses at the international level, including Bouygues of France and Bovis Lend Lease of the UK. The 'Big 5' industrial economies of Europe involved in construction are Germany, France, Italy, Spain and the UK. Although these are reporting growth in the sector, it is lower than the growth of GDP in the EU15. Tender prices are starting to rise, but this reflects deterioration in the labour availability market, rather than a softening of the market price with regard to construction.

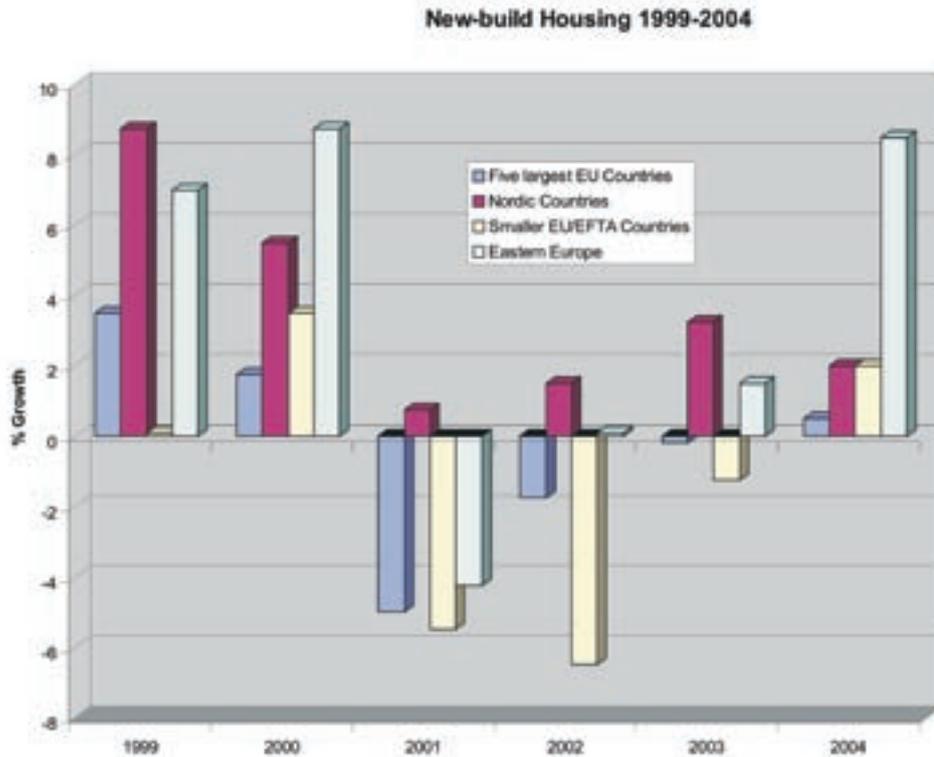


Chart 6, Source: Gardiner & Theobald Inc, March 2002
 + Melbourne and Sydney, * Durban, Johannesburg and Pretoria, ** Boston, Denver, Hawaii, Los Vegas, Los Angeles, New York, Phoenix, Portland, San Francisco, Seattle and Washington DC.

The European construction businesses competing in the international arena are significantly smaller than Japan's Shimizu and Kajima Corporations and the US-based international civil engineering contractor, Bechtel. It is likely, therefore that the EU15 will see considerable structural change in the construction industry over the next few years. Downward pressure on prices in several of the major developing economies is likely to accelerate this process.

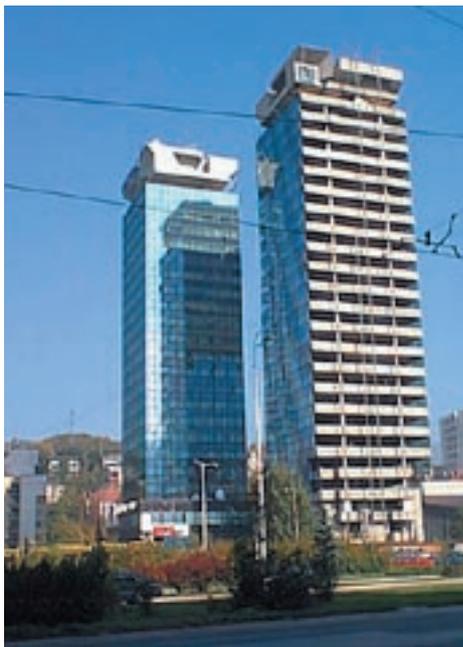


Image: UTIC - Sarajevo

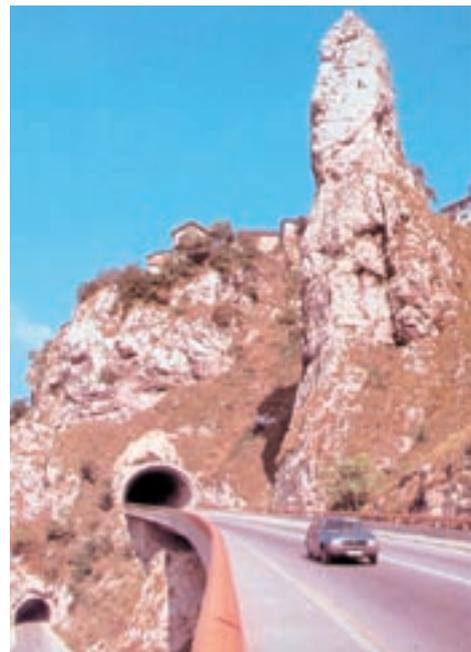


Image: Tunnel Vratnik - Sarajevo

3. Development of the BiH Construction Industry

The construction industry of Bosnia and Herzegovina is currently involved in the process of change from a mixed economy structure, created in the former Federal Socialist Republic of Yugoslavia, to a fully privatised one. Even before 1992, and the outbreak of war in BiH, the industry had a number of privately owned businesses and the larger state-owned companies were working in close co-operation with the international consortiums building developments in Germany, Iraq, Kenya, Kuwait, Libya, Pakistan and Russia. One major benefit derived from the industry's participation in foreign projects was that it was kept fully up to date with international practices and new materials. The skills of the workforce were instrumental in BiH construction businesses gaining recognition in the international arena. Others engaged in this competitive trade sought the construction and engineering services of industry.

3.1 Design and Technical Services

There have been changes in the structure of the design and technical services sector of the construction industry of BiH, following re-organisation and privatisation of some parts of the state-owned businesses and the technical support services of the former state institutions. The former design institute of the state railways has found a new role in providing a technical service to construction businesses operating in the country. Other specialist design sections of former state-owned industries are offering their services to both the domestic and international markets. Their core competencies range from conception studies to the supervision of the implementation stages of the construction of bridges, roads and major public and private building developments.

Many of the senior staff of these businesses also participate in tertiary education in the universities of BiH, which continue to supply graduates in engineering sciences to the industry. This approach to education had beneficial effects in the past, as practitioners were able to convey information about technical innovation to the students, particularly when they were involved with international construction projects abroad. This system survives today, but due to the low-level of activity in the domestic market, it is difficult to provide the level of continuing training for graduates after they leave university. On average, it requires five years of in-practice training for a BSc-level graduate to gain sufficient practical experience to cope with the complexities of major projects. For those graduating since the end of the war in 1995, there have been few opportunities to gain the necessary level of exposure to actual construction for them to be able to make a significant contribution to projects.

The international projects offered to the design and technical service providers of BiH tend to exacerbate this problem. These seek the input of experienced staff at the conception stage or specialist advice on specific aspects of advanced projects, but the implementation stages are allocated to others. BiH requires to be given opportunities to deploy more of the technical services staff on such projects, certainly where these are to take place either within BiH or in the neighbouring states.

3.2 Building and Civil Engineering

The building construction and civil engineering sectors are experienced in a wide range of projects. Those operating in the building construction and civil engineering sectors are undergoing a privatisation programme that will remove the last vestiges of state control from the industry. Large-scale operators exist in both the fully privatised and partially privatised sectors that have considerable experience of working as members of international consortia. They have the capability of providing a complete service to the market, or in providing specialist advice and experts on every stage in the process of building: from complete project management to problem-solving services. Involvement in overseas projects continues today, with one major business operating in Libya. The company, which is only part-privatised, has over forty years experience in the country and over 40 years experience of working in Eastern Europe and the Middle East.

Other privatised businesses are moving from being locally focused to becoming national resources that are engaged in building projects right across the geographic area of BiH. As with all other European

construction markets, there are few medium-to-large scale businesses, capable of providing the whole range of construction services (including concept design and some component manufacturing) and many more small-scale operations primarily aimed at satisfying a local demand.

Another sector of the BiH construction industry that has potential to fulfil the needs of the local market for additional housing and to export its products widely in the EU is that of industrialised building. BiH-based businesses in this sector have extensive experience of building modular units for commercial, industrial and leisure end-users and of producing complete single and multiple storey houses that can be delivered as units to prepared sites for final assembly.



HPS "Grančarevo - Trebinje"

3.3 Building Materials

The natural resources of BiH provide the raw materials for a wide range of construction materials. The existing manufacturers need investment in new equipment and to update their working practices to provide the volume of material needed to support any increase in the pace of construction in the country. This will also entail the development of new products to meet market needs and to reduce the requirement for imports from elsewhere in Europe. Most notable among these are the production of glass, which although the subject of feasibility studies in and around the town of Tuzla, where the required materials can be found, has not been started. The cost of transporting such fragile material across borders, when compared to its value, makes no sense. Likewise, the import of terracotta roof tiles from Slovenia and Italy is unnecessary: local clay brick manufacturers can make these with only minimal investment.

The quality of stone, aggregates and sand deposits in BiH is high. These are capable of increased exploitation in the domestic construction market and for limited export opportunities to neighbouring countries. Gypsum is mined in BiH and there are extensive deposits that can be opened up at relatively low cost. There is one manufacturer in BiH producing plasterboard and other architectural materials from locally mined gypsum. As market demand exceeds the current level of supply, similar products are being imported from Italy. Investment opportunities exist therefore in both the mining and product development sectors for these materials. The export of high quality stone to the EU and beyond is potentially viable, particularly where the value of the material is high.

There are two large businesses producing cement in BiH, Kankanj and Lukavac, that have been recently privatised, plus a further 3 smaller-scale manufacturers. The existing capacity of 800,000 tonnes per annum available in the two larger businesses exceeds current demands in BiH, but Lukavac is planning to export cement and ready-mixed concrete to neighbouring countries and is to expand its capacity from 300,000 tonnes per year to 700,000. The major cement factories were in need of investment to reduce manufacturing costs. The first priority for the German investor in Kankanj and the Austrian in Lukavac has been to modernise the plant and to increase productivity levels among the workforces. The next stage of development will be the sourcing competitively priced energy.

Timber-based construction materials and components are produced in BiH, many of which are of medium-high quality. Investment is already starting to add to the range of materials available, particular in the introduction of medium-density fibreboard (MDF), but more is needed.

The sector is however, not focused upon increased productivity and still employs outdated methods of manufacturing. Investment is required in management training as well as in new technology if the sector is to be able to contend with increasing demands. Failure to do so will open the market to substantial imports.

The construction product sector needs to introduce selectively additional products that are currently being imported. The range of products produced in BiH is wide, but focused largely on the commodity sectors of the market.

3.4 Building Regulations and Standards

3.4.1 Planning Permission

Building planning regulations in Bosnia and Herzegovina are operated at three levels. It is necessary to obtain government-issued licenses for all aspects of development, the issuing authorities for which are dependent upon the extent of the development and/or the type of project that is planned. Certain types of development, such as those that have an enduring impact upon the ecology of the country, need to have authorised licenses to proceed issued by the State Government of Bosnia and Herzegovina. Less strategic developments are handled at Entity level, with licenses being issued by the Federation of Bosnia and Herzegovina, Republika Srpska or Brčko District government departments. Smaller, local developments have to be licensed by the municipal authorities in each of these administrative areas of BiH.

All building activities are controlled under the license system, including those of repair and renovation, however if the development is more extensive and the requirement includes new building, it is necessary to apply for a change of use of the land in addition to obtaining a license to carry out the work. Applications for change of use of land have to be made to the appropriate authorities, according to the principles above.

The Law on Physical Planning has undergone a significant change designed to speed up the process of obtain building permission in BiH. The majority of applications are made to the municipal authority in which the new structure is to be built. The formal application must provide information about the plot of land on which the building is to be constructed, giving clear information as to where it is located, a preliminary design and plan for the structure. This must show details of ground-works, floor plans for each level of elevation, roofing plan, detailed front, side and rear vertical elevations and cross-section details) and, where necessary, environmental data contained in a previously obtained Environmental License.

The relevant planning authority is required to acknowledge receipt of each application within 15 days of its submission. Should additional information be required, this authority must request this at the time of acknowledgement, after which the applicant has 30 days in which to provide the additional information. Failure to do so within the statutory period will result in the application being deemed as withdrawn and the whole process will have to start again. In the event that no further information is required, the license-issuing authority must give a verdict as to the suitability of the application within 30 days. Failure to do so on their behalf will be taken as an acceptance of the application. The authority is also obliged to give its verdict within 30 days of additional information being supplied by the applicant, or the application is deemed to have been accepted and a Physical Planning License (PPL) has to be issued.

Once the applicant has obtained the PPL, it is possible to obtain a Permit for Construction from the same authority and the applicant must commence construction of the structure within one year of the date of issue of the PPL. It is possible, however, to obtain an extension to the license in the case of any reasonable extenuating circumstances that cause a delay in the construction schedule.

3.4.2 Purchase of Property

There are two options with regard to the purchasing of property in BiH. The first of these equates to a freehold agreement, but with the reservation, that in some cases the title of the land may remain with the local authority. The second is a leasehold sale agreement. Would-be purchasers are advised to exercise care when investing in properties in BiH and to ensure that exhaustive enquiries are made about land ownership before proceeding with the processes described below.

3.4.2.1 Sale of property under option one is completed in two stages.

Stage one

A preliminary contract has to be drawn up between the seller and the purchaser of the property, which has to be signed by a representative of the purchasing party who will be resident in BiH following the full registration process.

The contract must state the price that has been agreed between the parties to the sale and confirm that both are committed to completing the registration process, after which they will be legally bound to conclude a finalised Contract of Sale for the property. The preparation of the preliminary contract can be drawn up prior to the registration process or during it, but the parties must have reached full and final agreement in the form of a Contract of Sale before the registration process can be completed.

Upon completion of the preliminary contract, the purchaser must pay a deposit of between 3 and 5% of the agreed selling price to the seller.

Stage two

The transfer of the property has to be registered by the appropriate local authority. The charges for this are similar to those made in EU States. Once the registration process is completed, the seller of the property must abide by the conditions agreed in the Contract of Sale and the purchaser must pay the balance of the sum agreed to the seller.

On completion of the sale, the purchaser is required to pay Property Tax (Real Estate Tax) to the authority at a rate of 8% of the full sales price. The liability for the payment of this tax can be transferred to the seller, but only if it is mutually agreed and made a condition under the Contract of sale.

3.4.2.2 Sale of property under option two

The Contract of Sale under this option is in effect a rental agreement spread over a number of years. The price for the purchase of the property is agreed between the parties for a fixed term of years. Registration of the Contract of Sale takes place with the appropriate level of government. The contract may be negotiated before the registration process begins, or during it. Once completed the parties exchange signed copies of the contract and the agreed sum is paid to the seller by the purchaser. In BiH, this system is still in the process of development, thus the payment of ground rent and maintenance charges is far less formal than that in the EU or North America. Accommodation in cities was until recently owned either by employers or local authorities. Only now is it possible for property management companies to take over the ownership of apartments or to be appointed by the residents to manage apartment blocks on their behalf. Formal ground rental agreements, in which review dates are agreed at staged intervals are not in common use in BiH.

In BiH, the purchasers of leases are given the option to transfer their contracts to that of a freehold purchase. All Contracts of Sale for leases on properties in BiH must include a clause giving the purchaser a legal right to do so.

3.4.2.3 New Constructions

As with all other property in BiH, the construction of new buildings is controlled through a series of planning and licensing procedures. These are handled at Entity (FBiH and RS), Canton/Region or Municipal level according to the scale and scope of the application. Strategy plans for economic development are agreed at all three levels of local government and licenses for construction in support of these plans are issued to applicants by the appropriate authorities' Physical Planning Departments. The transfer of land and its change of usage have to be registered with these departments and fees paid to them once permission

is granted. In addition, there are charges payable to the authorities for connection to the installed utility services. On 'green field' development sites, it is probable that the developer will be financially responsible for the installation of such utilities.

3.4.2.4 Property Purchases by Foreigners

The laws on property ownership in Bosnia and Herzegovina permits purchase by foreign investors so long as this is made through a legal entity, such as a business registered in BiH. It is possible for foreigners to buy domestic accommodation only if this is connected to their commercial or industrial enterprises within the country.

3.5 Quality Standards and Regulations

Following the cessation of hostilities in BiH, both Entity governments introduced regulations governing the quality standards for the construction industry. In the Federation of Bosnia and Herzegovina, a manual of technical and obligatory conditions for the construction, reconstruction, repair and adaptation of construction (building) units has been published by the Ministry of Physical Planning and Environment. The manual contains 18 chapters covering technical regulations and standards and the legal obligations between parties involving all aspect of the construction industry: for design, control, execution and hand-over. It specifies the content of contracts required between the parties, the procedures to be followed from tendering to the final release of the properties to the owners. The manual is considered a stopgap document pending the passing of new laws for the field of construction, for physical planning and for issues affecting the environment. The manual codifies regulations derived from the quality standards used in the former FSRY (which were based on old German regulations) and more recent FIDIC regulations and instructions used as criteria by the World Bank.

As BiH is a signatory to an agreement to bring its regulations in line with those of the EU, many construction businesses are seeking approval under ISO standards, not only for the physical aspects of quality, but those covering procedures and management control. Four approved organisations in BiH can issue certification to ISO standards, however, the Croatian branch of SGS Switzerland SA assessed the first construction company in BiH to be awarded ISO 9001/2000. Under these arrangements, the construction industry of BiH will be subject to changes in the requirements for implementation of quality standards across the construction industry in the EU. A study funded by CNPq and FINEP in Brazil and the UK on behalf of the major construction businesses operating in these countries has put forward a series of suggestions on how to better implement existing regulations on building sites. It is likely that recommendations from the report will be incorporated into ISO-based standards for the construction industry worldwide.

Environmental issues are also driving forward changes in quality standards throughout the European construction industry. These will be incorporated into BiH regulations so that the industry can achieve full compliance with the EU. One new requirement currently before the European Commission is the development of an integrated methodology for assessing the minimum energy performance of buildings. This covers insulation, heating, ventilation, lighting, orientation, heat recovery and the use of renewable energy resources. The requirements of the Kyoto protocol, to which the nations of the EU15 are signatories, calls for a 22% energy saving in the building sector by 2010, thus the minimum standards will be applied to all new buildings and to existing building where renovations over 1,500 m². The proposed regulations have been welcomed by the European Construction Industry Federation (FIEC) as these will go a long way towards meeting the Kyoto objectives on cutting carbon dioxide emissions and are likely to create up to 300,000 new jobs in the EU15. The adoption of these regulations would help BiH place more of the displaced workforce in employment that has a future.

3.6 Financial Incentives

There are extensive tax incentives for foreign investors within the Federation of Bosnia and Herzegovina and in Republika Srpska.

In order to promote inward investments, the Government of the Federation of Bosnia and Herzegovina is granting an annual tax exemption for newly established companies with local and/or foreign share capital at the level of 100% in the first year, 70% for the second and 30% for the third year. Also, if foreign investment exceeds 20% of company equity, that company is exempted of profit taxes for the first five years, proportionally to the foreign stakes in the total capital of the company.

In the Republika Srpska, foreign investors have an exemption from profit taxes for the first five years following the investment.

Foreign investors can open bank accounts in Bosnia Herzegovina and freely transfer funds abroad. A number of foreign banks have branches in BiH including Raiffeisenn, Volksbank, BBI – Malaysia, Zagrebacka and the Turkish Ziraat Bank.

Bosnia Herzegovina's currency, the Konvertibilnih Maraka, was converted against the Euro at the same rate as the former Deutsche Mark (1.95538:1) on the introduction of the new currency on 1 January 2002. The currency will remain pegged against the Euro at this rate.

There is legal protection for foreign investment in BiH covering nationalisation, expropriation and requisition. The EU has established a € 10 million Investment Guarantee Trust Fund for Bosnia Herzegovina (Investment Guarantee Agency - IGA), which effectively minimises political risk for foreign investors by providing insurance against expropriation, currency transfer restrictions, war and civil disturbance and breaches of contract. This arrangement has been set up to last for fifteen years and there is further international support available through the Multilateral Investment Guarantee Agency (MIGA). Applicants seeking MIGA coverage should submit a confidential preliminary application before investment is irrevocably committed. Once investment and financing plans are established, applicants wishing to go ahead should submit a definitive application along with all relevant project documentation.

Foreigners also have the same rights in law as Bosnia Herzegovinan residents to invest and re-invest profits from investments into any, and all sectors of the economy. Foreign owned property enjoys the same rights as that owned by BiH citizens and entities. BiH is a part to the International Convention for the Settlement of Disputes. It has also entered into a number of bilateral agreements for the promotion and protection of investments, all of which include dispute resolution clauses within the scope of the agreements.

A Foreign Investors Association has now been formed, which will work closely with the Foreign Investment Promotion Agency (FIPA).

4. SWOT Analysis

4.1 Design and Technical Services

The design and technical services sector of the construction industry has worked in multinational projects in the international market and is fully conversant with the tendering processes required. Since the ending of the 1992-1995 war, the sector's energies have been concentrated on repair and renovation in BiH. As the emphasis changes towards more new building and new civil engineering projects, the problems of the industry become more apparent. A lack of opportunities for graduates to obtain practice experience on such work since 1995 is a cause for concern among the top management. Specifications for personnel on EC projects focus solely upon the most skilled members of the design and technical teams, further reducing the opportunity for BiH staff to gain post-graduate experience. At a meso-economic level, fewer students are willing to take up places on engineering courses, preferring to study economics and social science subjects.

There is evidence that foreign companies investing in construction in the BiH market are using their own design facilities. It may be possible for BiH's design and technical services sector to find opportunities for their involvement in the growth markets for construction on the basis of lower costs than EU personnel with similar qualifications.

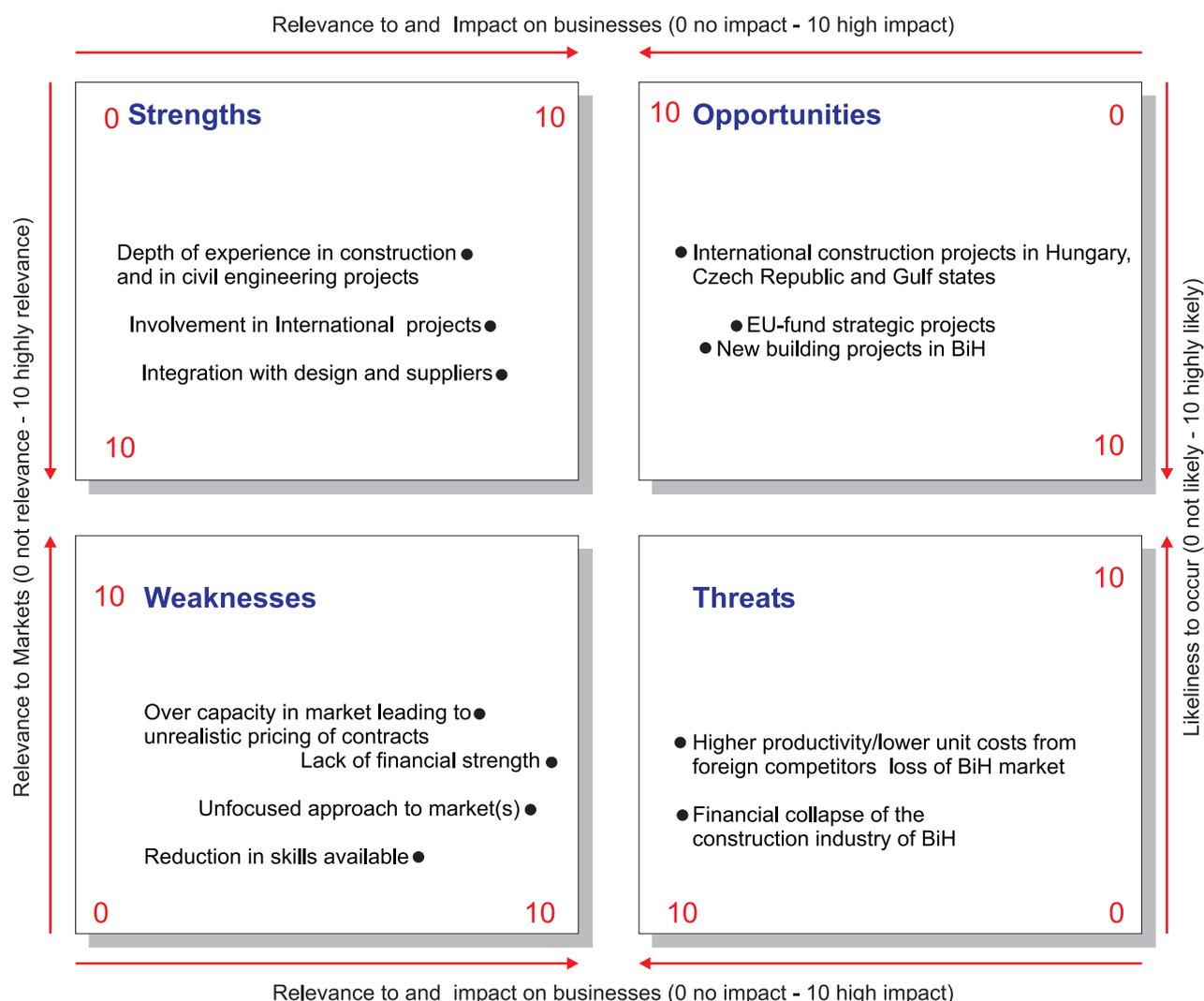


4.2 Building and Civil Engineering

The sector of the industry dealing with the construction of buildings and civil engineering projects, such as bridge and road building, has spent the past seven years in repairing and renovating the housing stock and infrastructure of the country. There has been little opportunity to become involved in international construction projects of the type that the BiH companies were involved in prior to 1992. The funding of repairs has been on an ad hoc basis, with no strategic plan for the recovery of the sector. Equipment has been replaced on a need to complete individual repair tasks rather than to undertake a systematic upgrading of construction equipment, much of which was obsolescent before the conflict started.

Emphasis on lowest-cost contracting has had an adverse effect on the retention of skills in the workforce and has led to the pursuit of sales at almost any cost. This gives an impression of the sector being one of low-cost, but low productivity will inevitably put up new-build costs. The current level of overcapacity in the sector has to fall and selective automation has to be invested in if the BiH businesses are to compete on equal terms with the international industry.

Ancillary costs involved in obtaining licenses to build and charges for connection to the utilities system have to be reviewed. If, as has been estimated, these are adding more than 40% to new development costs, the development of the domestic construction market will take longer than most BiH contractors can be expected to survive financially.



4.3 Building Materials

Certain sectors within the building materials manufacturing capability of BiH are able to provide all of the requirements of the domestic market and some have a potential for export. These are largely to be found in the raw materials and timber sub-sectors of the industry and includes the production of cement and concrete-based products.

Material damage to the sector during the war has left businesses with outmoded equipment and production techniques. Investments made in neighbouring countries in the period 1992-2002 has increased the quality of materials produced there and these are being sought in preference to local products by the construction industry of BiH. It is suggested that the managers of BiH businesses involved in building materials production are also failing to respond to the needs of the market. This is partial understandable in view of the downward pressure on prices, which has tended to promote a downward spiral on quality and focus upon commodity products.

The sector requires, therefore, investment in management and staff training, as well as in selective plant and equipment. A primary requirement for the sector has to be increased productivity and quality if it is to survive increasing competition in the BiH market. The time for this to happen is likely to be extremely short if the building construction and civil engineering sectors gain the investment levels they are seeking to start upon much needed new development projects.



5. Informal Message

The construction industry of Bosnia and Herzegovina has the benefit of being able to support itself at home with a wide range of products produced from locally available raw materials. It also has the full range of technical engineering support required to compete effectively both at home and abroad. Before the disruption of the 1992-1995 war, and the material losses suffered by almost all sectors that occurred during that time, the industry was integrated and capable of competing successfully in the international arena. It had a good reputation for quality and reliability and still offers a sound base for inward investment.

It would be wrong to convey the message that the damage inflicted by the war has not undermined the industry's former standing, but the effects are less severe than these may at first appear. Some of the equipment lost has been replaced by the actions of humanitarian aid agencies and more recently by donor-nation funded infrastructure developments. What is now required is specific investment in those pieces of equipment needed to complete the recovery of the industry and to improve its ability to tackle the range of projects now planned.

Plant and buildings were destroyed in the manufacturing sectors, some of which has been replaced. In view of the scale and scope of future development in BiH, it would make economic sense to invest in new plant that could take full advantage of the abundant raw materials available in the country. This would also have the potential to develop a limited export trade to neighbouring states and possibly the EU.

The universities of BiH are providing graduate engineers that have the advantages bestowed by an industry where lecturers are also practitioners in the international arena. They are able to learn about new methodologies and materials as these are introduced to meet the demands of a changing market. When the war broke out many of the specialists were engaged in overseas projects and they remained there for the duration of the war. Some have returned and are contributing to the knowledge base of the industry, advising on what changes have taken place in the intervening ten years. Graduates leaving the universities since 1995, however, have had few opportunities to gain the necessary levels of practical experience to participate fully in the development of new projects: on average, the training period required in practice for civil engineers is five years. Current project proposals stipulate that local consultants must have a university degree in an engineering science and at least fifteen years practical experience. This provides opportunities for the most senior staff in design and technical service practices, but without an opportunity to use less experienced staff in supervising structural aspects of projects, the industry is in danger of decline.

Skilled worker availability in BiH is also reduced from the pre-1992 level. Some are working in the EU, which in itself is suffering from a lack of similar staff as it copes with a boom in the cycle of construction. Others have found alternative employment in commerce and other industries in BiH. These can be expected to return to the industry when there is the possibility of continuity of employment in the future.

A new strategic highway is to be built as part of the EU TEN programme, which will be routed across BiH from the north to the southeast. There are many businesses based in Bosnia and Herzegovina that are capable of carrying out the construction of this highway, but they need to receive funding to do so. It seems appropriate that this should be achieved in partnership with international businesses that are prepared to contract to operate the finished highway on a toll basis for the next fifteen to 20 years, in much the same way as other strategic roads in the EU have been developed.

The railways system in BiH is already earmarked for renovation under an EU project with a budget of € 56.4 million. The European Bank for Reconstruction and Development has already provide a loan of € 21 million for this to commence in the near future. This will involve both BiH businesses and partners from abroad.

The building of connecting roads with these two strategic developments, and the provision of warehousing and industrial complexes along the route offer many more investment opportunities. Participation in the construction of new factories, offices and housing is open to competition, but it is a sound investment to use local building skills to do so.

It is obvious that investment in education and training is also required in all sectors of the industry, but many of the construction businesses in BiH cannot contemplate spending funds on training programmes. Inward investment in management training, particularly in marketing skills and organisational development

is a priority need. It is hoped that the projected development of the high-quality international highway linking Hungary with the Adriatic Sea (Corridor Vc) will provide adequate opportunities for recently graduated engineers from BiH universities to gain practical experience in bridge building, tunnelling and road construction.

Improvements in the ability to purchase property in BiH is having the effect of increasing demand and will push up the value of the existing housing. The rate of acquisition however, is not as fast as could be achieved because there are a number of additional issues affecting property purchase, which are now being addressed.

Land ownership is somewhat difficult to define in the period of transition to a capital-based economy. Apart from the continuing problem of displaced persons occupying other peoples' property, in the former Federal Socialist State of Yugoslavia, some land was owned by individuals, while other was state-owned property. Ownership of land on prior to the establishment of the socialist republic after the Second World War was based on the old Austria-Hungary Empire system, records from which still exist. It has been expedient, therefore to treat the sale of land in an individual case basis. Land that is clearly owned by an individual or families (normally in rural areas) can be exchanged freely between parties and the sale recorded by the local authority, which charges fees for the registration. Elsewhere, a nominal use-based value may be attached to the transaction, with the local authority retaining the amount paid in addition to the requisite fees until the ownership can be reasonably determined. There are parts of municipalities however, where it is not possible to buy land as part of the property.

Property ownership in BiH is complex and requires due diligence on behalf of those drawing up sales agreements to ensure exactly what is included in the title deed. A land registry does exist, although its records are far from complete. Records cover both properties (buildings and other structures) and land. It is possible therefore, to establish whether clear title exists and where there are doubts that have to be born in mind before a final decision is made.

New laws covering the system for gaining planning permission to build new structures have just been passed in the Federation of Bosnia and Herzegovina that are intended to reduce the length of time required to obtain the necessary licenses. The construction industry has been pressing for such a change as previously it often took longer to obtain planning permission and a building permit than it did to carry out the physical construction of a building.

The charges being levied for connection to utility services for new construction developments are high. Where the utilities are installed prior to planning licenses being issued to developers, there are clearly defined costs for domestic and commercial/industrial premises. These appear to be high by EU levels and are probably in need of review. On green-field development sites, the developer has to pay for the installation of utilities and then the property purchaser has to pay again to have their properties connected. The high level such costs and the payment of double charges on new developments is holding back potential housing projects.

Notwithstanding the problems involved in the construction industry of BiH, or in the limits of funding property development without clear ownership being establish, it is obvious that a great deal of construction work will take place in the country over the next decade or so. It is also clear that local businesses are going to be best suited to providing the design and technical services needed for the developments and that local building material suppliers can be made cost-effective in providing the necessary volume of components needed with minimal investment.

Foreign investment in the construction industry of Bosnia and Herzegovina is an attractive proposition, particularly so as there are prospects of involvement in international projects as the industry regains its position in the world's international construction industry. There are taxation holidays, or very reduced levels of profit taxes for the first five years of operation on new venture businesses that have a foreign partner in both the Federation of Bosnia and Herzegovina (FBiH) and in the Republika Srpska (RS). The prospects of profitable growth in the BiH construction industry is likely remain high for at least the next decade or so.

Entity

Federation of Bosnia and Herzegovina

#	Municipality	Town	Company	Products
1	Bosanska Krupa	Bos.Krupa	UNA-SA D.O.O.	Building Construction
2	Cazin	Cazin	ELEKTROMETAL D.O.O.	Building Construction
3	Cazin	Cazin	25 MAJ	Brick Production
4	Bihać	Bihać	BEDEM D.O.O.	Building Construction Cement Production
5	Bihać	Bihać	KAMEN D.O.O.	Stone Processing
6	Sanski Most	Sanski Most	FADING COMERCE D.O.O.	Concrete, concrete products
7	Sanski Most	Sanski Most	DIVEL D.O.O.	Concrete, concrete products
8	Velika Kladuša	Velika Kladuša	GRUPEX	Pre-stressed concrete elements, pipes, blocks
9	Gračanica	Gračanica	ŠIRBEGović HOLDING	Building Construction Pre-fabricated concrete elements
10	Tuzla	Tuzla	TEHNOGRAD	Building and Civil Eng. Concrete products
11	Srebrenik	Srebrenik	COBRA D.O.O.	Building Construction
12	Srebrenik	Srebrenik	JATA	Civil Engineering, Asphalt Production
13	Lukavac	Lukavac	CEMENT FACTORY	Cement production
14	Zenica	Zenica	KONSTRUKTOR No.1	Building Construction
15	Zenica	Zenica	GP IZGRADNJA INVEST	Building Construction

Canton
Unsko-sanski

Tuzlanski

Zeničko-dobojski

Legend:

Building Construction

Civil Engineering

Building Materials

Design and Structural Services

Installations

Continued

Entity

Federation of Bosnia and Herzegovina

Canton	#	Municipality	Town	Company	Products
Unsko-sanski	16	Maglaj	Maglaj	OBNOVA D.O.O.	Building Construction
	17	Maglaj	Maglaj	PRIMUS	Building Construction Doors and Windows Prod.
	18	Tešanj	Jelah	IGM USORA	Brick Production
	19	Kakanj	Kakanj	CEMENT FACTORY	Cement production
	20	Visoko	Visoko	IGM	Clay Brick Production
	21	Visoko	Visoko	ASFALTGRADNJA	Civil Eng. Asphalt Production
	22	Vareš	Vareš	BBM AMFIBOLIT	Stone Quarry
	23	Zavidovići	Zavidovići	KRIVAJA	Building Construction, Pre-fabricated houses
	24	Goražde	Goražde	ELIF-COMPANY D.O.O.	Building Construction
	25	Gornji Vakuf	Gornji Vakuf	PPUD Aga-KULA D.O.O.	Building Construction
Bosansko-podrinjski	26	Novi Travnik	Novi Travnik	GRADJEVINAR D.D.	Building Construction Construction Material Prod.
	27	Donji Vakuf	Donji Vakuf	GDUP MONTING D.O.O.	Building Construction
	28	Donji Vakuf	Donji Vakuf	SAMOBORKA KOMCEL D.O.O	Stone Processing
	29	Donji Vakuf	Donji Vakuf	GYP SUM MINE	Gypsum mining
	30	Donji Vakuf	Donji Vakuf	KOMAR	Gypsum processing
	31	Vitez	Vitez	VITEZ IGM D.O.O.	Concrete Production
Srednjobosanski					

Legend:

Building Construction

Civil Engineering

Building Materials

Design and Structural Services

Installations

Continued

Entity

Federation of Bosnia and Herzegovina

#	Municipality	Town	Company	Products
32	Konjic	Konjic	IzGRADNJA	Building Construction
33	Jablanica	Jablanica	PROMINVEST DOO	Concrete, concrete products, poles
34	Jablanica	Jablanica	GRANIT	Stone quarry and cutting
35	Mostar	Mostar	HERCEGOVINA	Building Construction
36	Široki Brijeg	Široki Brijeg	AB D.O.O.	Building Construction
37	Široki Brijeg	Široki Brijeg	TERMOSTAKLO D.O.O.	Thermo-isolation Glass Production
38	Posušje	Posušje	VELPLAST	PEHD pipes production
39	Sarajevo	Sarajevo	BUTMIR D.O.O.	Building Construction, Construction Material Prod.
40	Sarajevo	Sarajevo	LAKE D.O.O.	Building Construction
41	Sarajevo	Sarajevo	POIN D.O.O.	Building Construction
42	Sarajevo	Sarajevo	UNIGRADNJA D.D.	Building Construction
43	Sarajevo	Sarajevo	HIROGRADNJA	Building and Civil Eng. Construction Material Prod.
44	Sarajevo	Sarajevo	ŽGP	Building and Civil Engineering
45	Sarajevo	Sarajevo	BOSNA	Building Construction
46	Sarajevo	Sarajevo	VRANICA	Building Construction
47	Sarajevo	Sarajevo	GP PUT	Civil Engineering

Legend:

Building Construction

Civil Engineering

Building Materials

Design and Structural Services

Installations

Continued

Entity

Federation of Bosnia and Herzegovina

Canton
Unsko-sanski

Municipality

Town
Sarajevo

Company
ANS-DRIVE

Products

48	Sarajevo	Sarajevo	ANS-DRIVE	Building Construction
49	Sarajevo	Sarajevo	MISOCA	Quarry, Asphalt Production
50	Sarajevo	Sarajevo	BREZA DOM	Concrete products
51	Sarajevo	Sarajevo	EUROBETON	Concrete products
52	Sarajevo	Sarajevo	BITUMENKA D.D.	Hydro-isolation materials
53	Sarajevo	Sarajevo	AB TECHNICS	Design, supervision, Installation
54	Sarajevo	Sarajevo	UNIONINVEST	Installation
55	Sarajevo	Sarajevo	EGW	Installation
56	Sarajevo	Sarajevo	DIJAMANT	Glass processing
57	Sarajevo	Sarajevo	TRASER	Design and Supervision on Civil Engineering
58	Sarajevo	Sarajevo	PLAN	Architectural Consultancy
59	Sarajevo	Sarajevo	ARHITEKT	Design and supervision on Building Construction
60	Sarajevo	Sarajevo	IPSA	Design and Supervision on Civil Engineering, Railways
61	Livno	Livno	MATKOVIC D.O.O.	Building Construction Construction materials

Kanton 10

Legend:

Building Construction

Civil Engineering

Building Materials

Design and Structural Services

Installations

Continued

Entity	Region	#	Municipality	Town	Company	Products
Republika Serpiska	Unsko-sanski	62	Laktasi	Laktasi	INTEGRAL-INZENJERING	Civil and Building Construct.
		63	Banja Luka	Banja Luka	HIRDO-KOP	Civil Engineering
		64	Banja Luka	Banja Luka	KRAJINA	Building Construction
		65	Banja Luka	Banja Luka	VRBAS	Building Construction
		66	Banja Luka	Banja Luka	VRANICA	Building Construction
		67	Banja Luka	Banja Luka	SUBASIC Co	Building Construction
		68	Banja Luka	Banja Luka	BINIS BETON	Concrete, Pre-fabrications
		69	Banja Luka	Banja Luka	BETONSKI PROIZVODI	Concrete, Pre-fabrications
		70	Banja Luka	Banja Luka	STRBAC COMPANY	Pre-fabricated houses
		71	Banja Luka	Banja Luka	TERMONT	Building Construction
		72	Banja Luka	Banja Luka	BRICK FACTORY	Clay Brick production
		73	Banja Luka	Banja Luka	KOZARAPUTEVI	Civil Engineering
		74	Banja Luka	Banja Luka	HIDROMONTAŽA	Hydro installations
		75	Banja Luka	Banja Luka	TERMOMONTAŽA	All type of installations
		76	Gradiška	Gradiška	ARTING INVEST G.P.	Building Construction
		77	Kneževo	Kneževo	ALUMINA	Aluminium doors and windows, construction
		78	Prijedor	Prijedor	PRIJEDORKA	Clay bricks
		79	Čelinac	Čelinac	DOMOGRADNJA	Concrete

Legend:

Building Construction Civil Engineering Building Materials Design and Structural Services Installations

Continued

Entity

Region
Unsko-sanski

#
80

Municipality
Čelinac

Town
Čelinac

Products

Terazzo, Slapped Dash, Façade plaster

Republika Srpska

Doboj

81

Kozarska Dubica

UNA

Gravel, Concrete, Concrete Prod.

82

Kozarska Dubica

SLOGA

Gravel, Concrete, Concrete Prod.

83

Novi Grad

JAPRA

Sand, Concrete, Concrete Prod.

Doboj

84

Doboj

RADNIK

Building Construction

85

Doboj

ZGP AD

Civil Engineering

86

Doboj

RMK LIME STONE MINE

Lime stone mining and processing

87

Derventa

GRMEC GRADNJA

Building Construction

88

Derventa

EHTA RR

Building Construction

89

Modriča

IGMIN PROMET

Building Construction

Bijeljina

90

Bijeljina

RANKOM INŽENJERING

Building Construction

91

Bijeljina

ODP RAD HOLDING

Building Construction

Vlasenica

92

Šekovići

MERMER

Marble quarry and cutting

93

Vlasenica

AD ALPRO

Aluminium Profiles, Tubes, Doors, and Windows

94

Milići

INTAL

Pre-fabricated houses, and sections

Sokolac

95

Srpsko Sarajevo

UNIGRAAAD

Building Construction

Legend:

Building Construction

Civil Engineering

Building Materials

Design and Structural Services

Installations



The colour coding of the businesses indicates their core activities according to the list given on pages I to VI. It should be noted however, that many are engaged in multiple activities and that these are shown as secondary to the main business function by means of coloured inserts. In addition to the declared business activities, many of the building construction and civil engineering companies offer design and technical support services and some of these have project teams working aboard on international projects at the time of compiling this industry profile.

European Market Cost Comparisons

Country	City Centre Offices		City Centre Offices		Factories and Warehousing		Out-of-town Business parks		Typical No. Floors
	Centrally heated € low-cost/ m ²	€ high-cost/m ²	Typical No. Floors	Air-conditioned € low-cost/m ²	€ low-cost/ m ²	€ high-cost/m ²	€ low-cost/m ²	€ high-cost/m ²	
Bosnia & Herzegovina	450			N/A	275	300	N/A	N/A	
Cyprus	522	1.045	-	566	313	662	697	1.393	
Czech Republic	618	784	6	663	332	748	603	844	6
Denmark	1.142	1.612	6	1.343	739	1.343	1.075	1.343	3
Finland	1.278	1.615	5	1.396	790	975	1.194	1.396	2
France	1.372	1.906	5	1.524	488	762	1.143	1.524	3
Germany	916	1.155	4	1.035	319	597	796	1.035	4
Greece	549	1.098		594	330	696	731	1.464	
Hungary	497	616	5	596	338	417	537	676	3
Ireland	1.778	2.285	5	1.968	571	762	1.397	1.524	
Italy	878	1.085	8	1.033	516	1.239	1.420	2.066	1
Netherlands	1.069	1.300	6	1.284	515	796	1.168	1.357	1
Poland	698	1.133		945	486	721			
Romania	654	926	8	763					
Slovakia	472	599	6	599	253	571	507	645	6
Spain	N/A	N/A		841	301	601	751	1.202	4
Sweden	1.181	1.328	4	1.443	941	1.139	1.024	1.233	1
Switzerland	916	1.492		1.424	814	1.221	1.085	1.356	2
UK	1.433	1.640	7	2.070	382	637	1.545	1.951	4

International Market Cost Comparisons

Country	City Centre Offices		City Centre Offices		Factories and Warehousing		Out-of-town		Typical No. Floors	
	Centrally heated € low-cost/m ²	Typical No. Floors	Air-conditioned € low-cost/m ²	Typical No. Floors	Warehousing € low-cost/m ²	Business parks € low-cost/m ²	Typical No. Floors			
Argentina	N/A	N/A	672	20	168	504	224	1	728	3
Australia +	N/A	N/A	1,075	25	250	690	376	1	900	3
China	904	1.187	877	25	364	1,052	607	2	1,282	3
Hong Kong	N/A	N/A	1,461	45	644	1,833	931	15	2,363	4
India	N/A	N/A	338	10	256	303	303		384	6
Indonesia	N/A	N/A	510		229	433	306		510	
Israel	N/A	N/A	752	7	211	752	237	1	860	6
Japan	N/A	N/A	2,177	15	440	1,379	1,225	1	2,177	10
Kenya	368	523	453	8	255	N/A	354	1	N/A	
Malaysia	N/A	N/A	294	30	132	N/A	206	2	N/A	
New Zealand	697	836	836	25	139	464	279		604	2
Oman	N/A	N/A	638		319	N/A	798		N/A	
Philippines	N/A	N/A	408	40	215	430	301	2	473	8
Saudi Arabia	N/A	N/A	923	7	596	N/A	893	1	N/A	
Singapore	N/A	N/A	1,220	25	403	1,098	561		1,305	
South Africa*	228	272	264	5	134	N/A	223	1	N/A	
Singapore	N/A	N/A	1,220	25	403	1,098	561		1,305	
Thailand	N/A	N/A	560	30	178	N/A	229	2	N/A	
UAE	N/A	N/A	608	20	304	608	608	1	836	3
Vietnam	N/A	N/A	889		356	755	445		889	
USA **	1,335	1,820	1,526	18	606	1,290	1,032	1	1,932	3
Caribbean***	N/A	N/A	1,675	4	600	N/A	818	1	N/A	

+ Melbourne & Sydney, * Durban & Pretoria/Johannesburg, ** Boston, Denver, Hawaii, Los Vegas, Los Angeles, New York, Phoenix, Portland, San Francisco, Seattle & Washington DC, *** Cayman & British Virgin Islands



Bosmal City Center, first condominium in BiH, is a project of Bosmal, a BiH-Malaysian joint venture company. The high level of quality apartments and business premises offers a new concept of living in a condominium.

Initiators and executors of this demanding and challenging project are young, successful BH businesspersons: Managing Director, Nijaz Šabanović (36), Executive Director, Edin Šabanović (32). Bosmal City Center will adorn Sarajevo and BiH with one of the tallest buildings on the Balkan. Investment into Bosmal City Center is the biggest greenfield investment in BiH. Bosmal City Center will be built in year 2003.