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European Regional  
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NATIONAL  
STRATEGIC  
REFERENCE FRAMEWORK  
2007 – 2013



OP "Development of  
the Competitiveness  
of the Bulgarian  
Economy" 2007-2013



INVESTBULGARIA  
AGENCY

Project "Promoting the advantages of investing in Bulgaria"

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# MEDICAL TOURISM AND BALNEOLOGY IN BULGARIA





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## Bulgaria in the News:



"Bulgaria is among the countries combining low prices for medical services with experienced medical personnel and has the potential to become a destination of choice for the so-called health tourists".

Reuters, from the report of the **Economist Intelligence Unit**,  
September 2011



An increasing number of Europeans (and persons from non-member countries) are travelling across borders to receive health treatment, to avoid waiting lists or to seek specialist treatment that may only be available abroad.

Eurostat yearbook 2010

### Bulgaria provides:

- Excellent geographical, climatic and environmental **conditions**
- The unique combination of **seaside**, **mountains** and **mineral water** makes Bulgaria a suitable place for health promotion throughout the year
- Long-standing **tradition** in balneology and spa tourism
- Refurbished **world-class** medical **and** rehabilitation centres and hotels
- Highly qualified and experienced healthcare **staff**
- Relatively low **cost** of medical services
- Well-developed **network** of private cosmetic surgery and dental clinics

Bulgaria should use its natural endowments and intellectual resources, as well as the hundreds of mineral water springs, healing climate, curative mud deposits, organic farming and services promoting a healthy lifestyle, cultural, wine, seaside and mountain tourism.

Antonia Wirth, President, International Real Estate Federation (**FIABCI**)



# Bulgaria is an attractive destination for treatment, prophylaxis and recreation



### Spring

fresh and colourful



### Summer

hot and dry



### Autumn

warm and rainy



### Winter

mild and snowy

Among Bulgaria's most valuable natural resources are the unique qualities, diversity and abundance of hydrothermal mineral water, curative mud, the sea, and other health resources.

- Healthy sea-influenced and mountainous climate
- Beautiful nature and scenic landscapes
- Over **1 600 springs**, of which over **600 are mineral springs**, mainly located in the foothills of mountains
- Dozens of lagoons and deposits of healing mud
- Deposits of curative peat



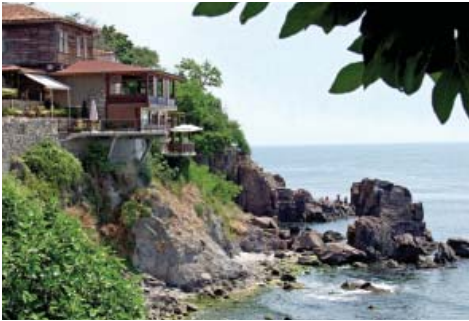
**Bulgaria ranks second in Europe after Iceland in the number of the mineral springs, providing all types of mineral water existing in nature.**

Bulgaria is a country of ancient history, ethnological and cultural heritage, and beautiful natural scenery

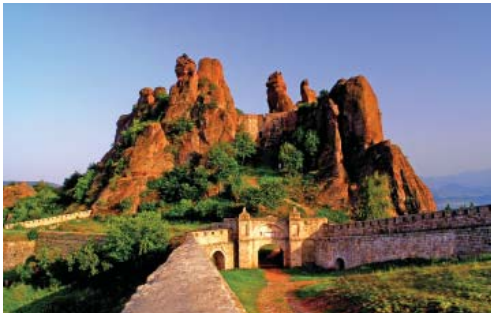
Historical heritage



Seaside resorts



Natural landmarks



Cultural attractions



Beautiful nature



Nature parks



Archaeological sites



Ski resorts



Bulgaria is strategically located and offers political stability and low cost of doing business.



Bulgaria is strategically located and provides access to the following markets:

- **South-East Europe** – a high-potential market with a population of 122 million people
- **European Union** – Bulgaria offers the lowest cost access to a market of 500 million people
- **Russia/CIS, Middle East and North Africa**

Bulgaria offers a combination of political and macroeconomic stability and many incentives for doing business:

- Stable parliamentary democracy - member of the EU, NATO and the World Trade Organization
- The Bulgarian currency is pegged to the Euro under a Currency Board
- The lowest tax rates and some of the lowest labour costs in the EU, backed by specific incentives for investors in the country
- EU funding - more than 10 billion Euro from EU funds in the next few years



## Bulgaria: Summary Statistics

Population:	<b>7.4 million</b>
Labour force:	3.4 million
Urban Population:	73%
Capital:	<b>Sofia</b>
Time zone:	EET (UTC+2)
Summer (DST):	EEST (UTC+3)
Total area:	110 879 sq. km
Land area:	108 489 sq. km
Water area:	2 390 sq. km
Climate:	temperate
Languages:	
Bulgarian (official)	85.2%
Turkish	9.1%
Roma	4.2%
English, German, Russian, French:	widely spoken
Religions:	
Christian Orthodox	76%
Muslim	10%
Other	14%
Currency:	Lev (BGN)
Fixed exchange rate:	<b>€1 = BGN 1.95583</b>
Corporate income tax:	<b>10%</b>
Personal income tax:	<b>10%</b>
VAT (standard):	<b>20%</b>
Government type:	Parliamentary Democracy
Supreme legislative power:	Unicameral 240-seat National Assembly
Executive state body:	Council of Ministers, head: Prime Minister
<b>EU member</b> since 2007 <b>NATO member</b> since 2004 <b>WTO member</b> since 1996	

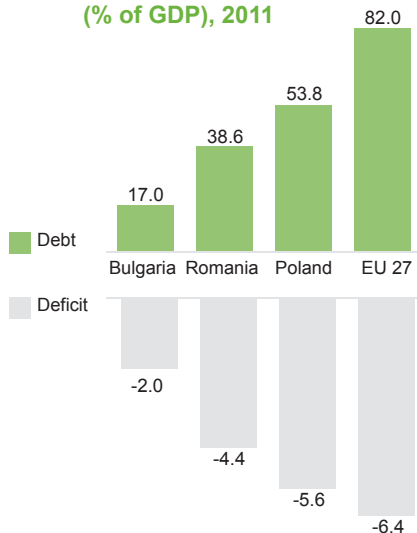
## Bulgaria enjoys exemplary macroeconomic indicators

### 2012 Economic Snapshot:

GDP (€ bn):	39.7
Exports (€ bn):	26.5
Net FDI* (% of GDP):	3.7
GDP growth (%):	0.8
Unemployment (%):	11.4
Inflation rate (annual change,%):	3.0
Government deficit (% of GDP):	-0.5e
Government debt (% of GDP):	18.9
Current account balance (% of GDP):	-1.3
Long-term credit ratings:	
Moody's:	Baa2 stable
S&P:	BBB stable
Fitch:	BBB stable

Source: Bulgarian National Bank, National Statistics Institute, Ministry of Finance Bulgaria

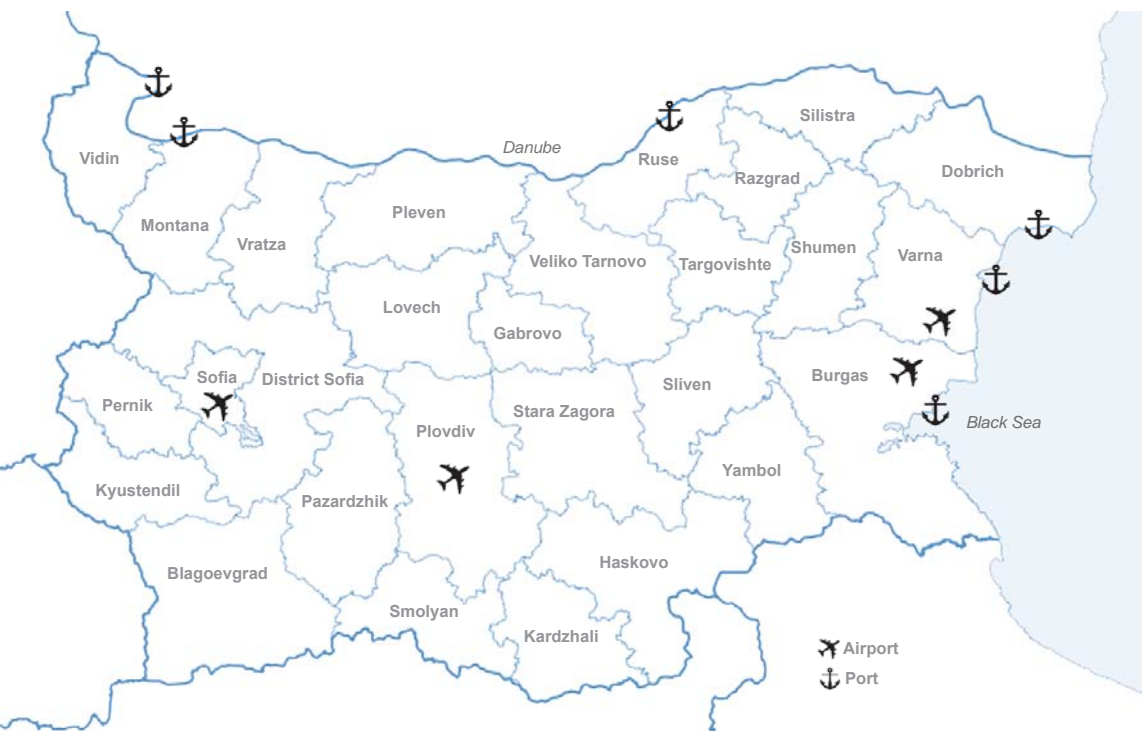
### Government debt and government deficit in Bulgaria, Romania, Poland and EU 27 (% of GDP), 2011



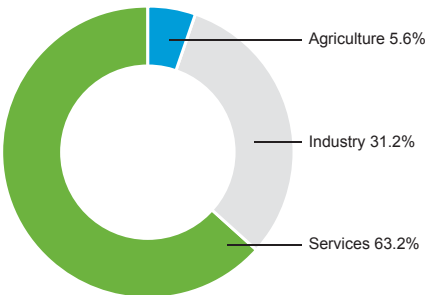
- The Bulgarian economy reported sustained growth of over 6% for the period 2000-2008
- The economy stabilized in 2011, with real GDP growth of 1.8% and 0.8 % in 2012
- The budget deficit in Bulgaria is one of the lowest in Europe for 2012: -0.5e %
- Currency stability resulting from the currency board introduced in 1997 - the Bulgarian Lev is pegged to the Euro at 1.95583
- In 2012, Bulgaria reported the lowest debt to GDP ratio in the EU27



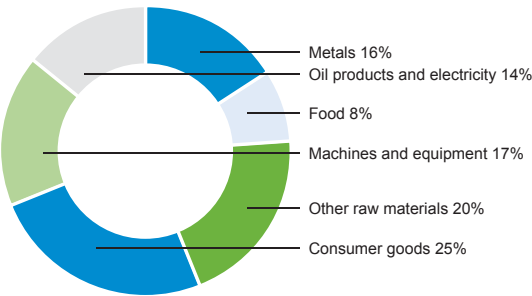
**Bulgaria is the only European country with an increased credit rating by Moody's since the beginning of 2010.**



GDP Breakdown



Exports Breakdown



Source: NSI

# Bulgaria offers a unique personal experience with easy access from Sofia to...

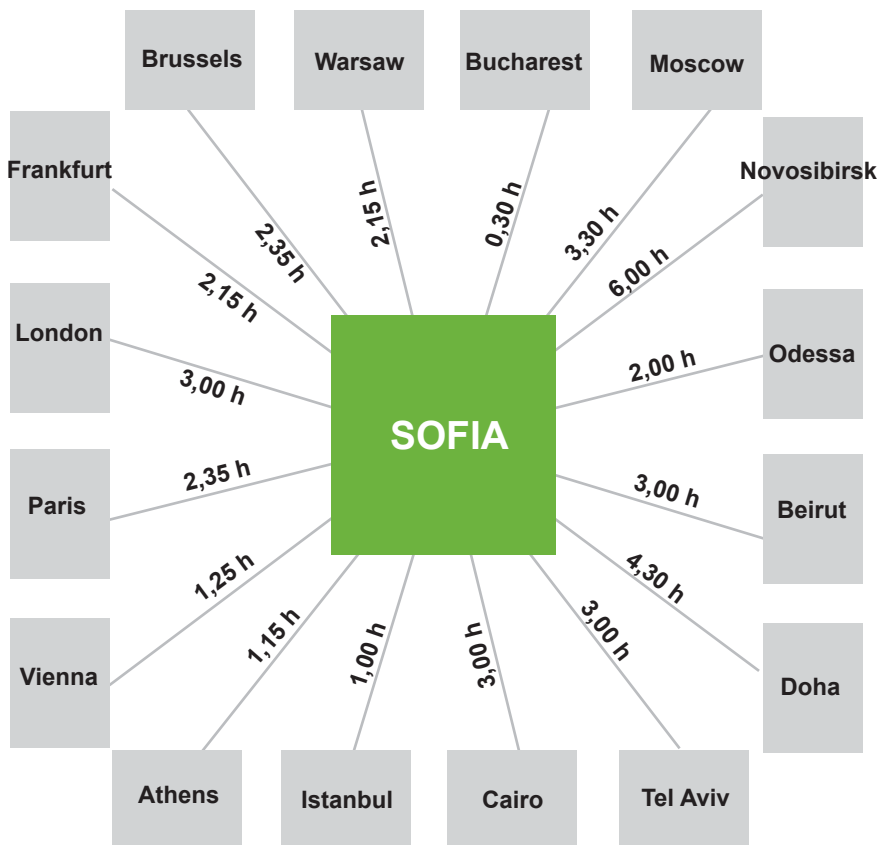


- ...vibrant cities with numerous art galleries, festivals, concerts, museums;
- ...world-class golf playgrounds;
- ...a beautiful coastline with golden beaches;
- ...ski resorts, including the 2012 World Ski Cup host town of Bansko;
- ...hiking and extreme sports in the beautiful mountains of Rila, Pirin, Rhodopes and Stara Planina;
- ...superb cuisine and boutique wineries;



- ...Thracian and Roman remains and artefacts;
- ...medieval fortresses and artefacts dating from the First and Second Bulgarian Kingdoms;
- ...monasteries and temples dating from the 4th century AD;
- ...picturesque Revival period villages.

## Bulgaria is just a short flight away from main destinations around



- The number of flights from all over the world to major airports in Bulgaria is growing every year
- Many low-cost airlines provide direct flights to Sofia, Plovdiv, and Varna



Bulgaria provides a high-quality and which allows for a very short travel



Varshets



Bankya



Kyustendil



Sandanski



Momin Prohod



Hissar



Pavel Banya



Velingrad



Narechenski Bani

constantly improving infrastructure  
times to leading spa resorts



Ovcha Mogila



St. St. Constantine and Elena



Pomorie

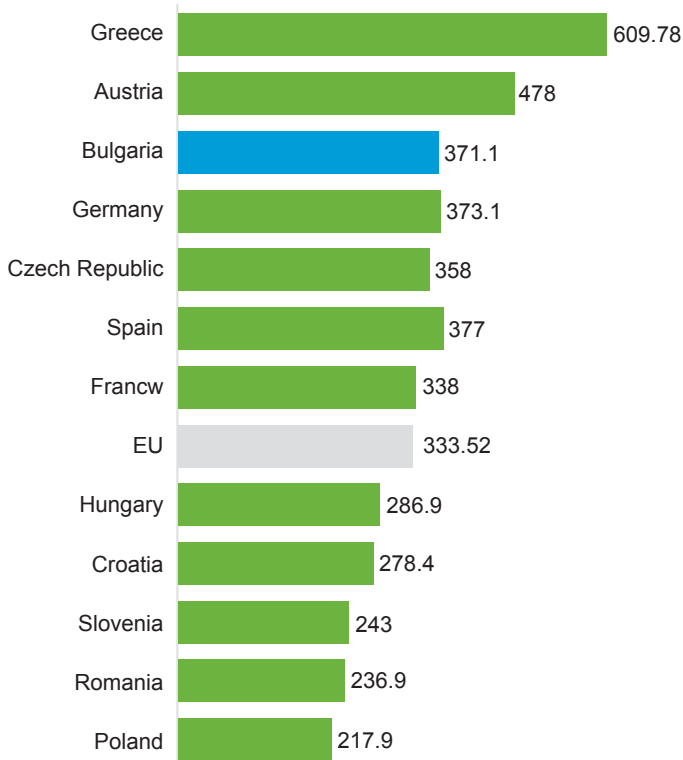


village of Banite

## Bulgaria is among the top EU countries according to the number of medical practitioners ...



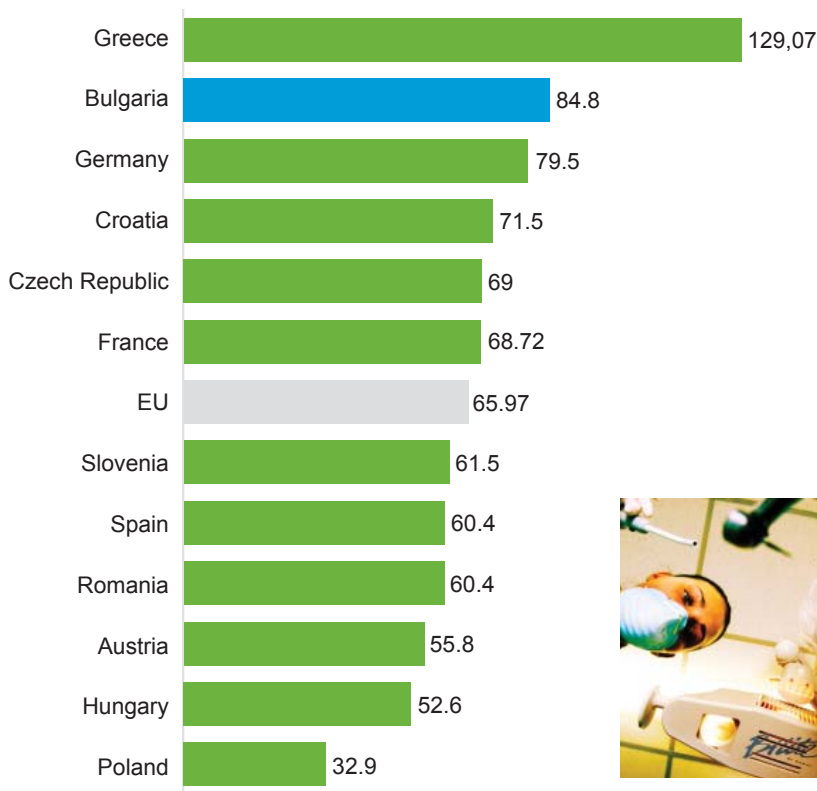
Medical doctors per 100 000 residents, 2012



- Bulgaria falls within the average range according to the percentage of **nurses** employed in the hospital sector. There are 464,98 nurses per 100 000 of the population; the EU average is 834,3 per 100 000 of the population
- One **doctor** in Bulgaria is assisted by an average of 1.3 nurses
- **Midwives** are 43,1 per 100 000 of the population, which is slightly above the EU average

## ...and second according to the number of dentists per 100 000 of the population

Dental medicine practitioners, 2012

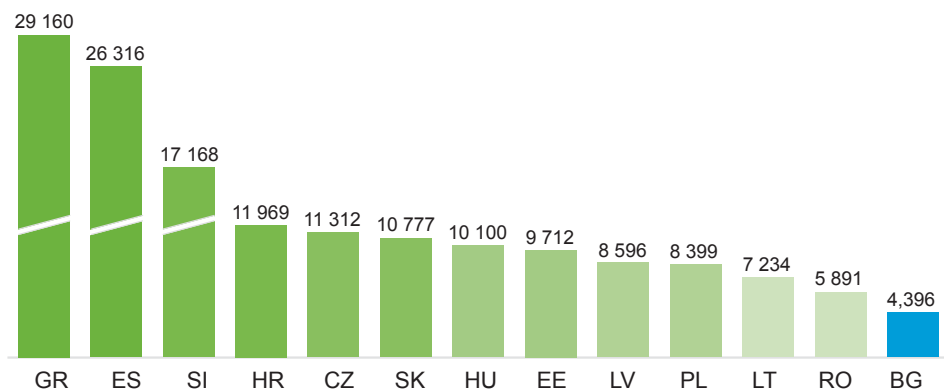


- About **7 000 dentists** work in modern dental practices in Bulgaria
- Bulgarian dental medicine meets all world-class criteria
- The dentist/population ratio in Bulgaria is almost twice the EU average. In Bulgaria, one dentist treats about 1 000 people, and in the EU the number is 1 800

## Opportunities to develop human resources in this sector:

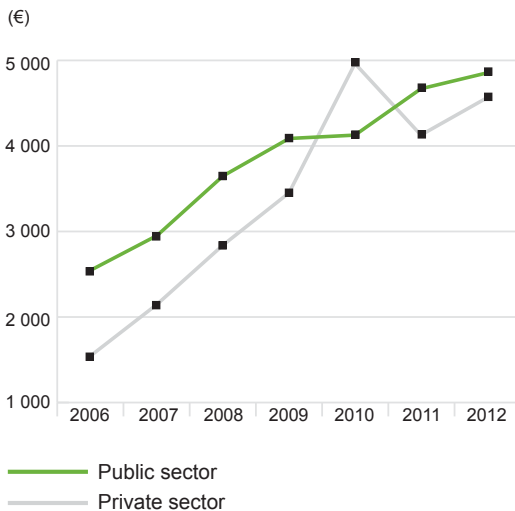
- There are bilateral agreements on **the exchange of students and teachers** under a European Union programme for cooperation in university education SOCRATES/ERASMUS
- A large part of medical practitioners **specialize** abroad
- Healthcare professionals are motivated to work in the **private sector**
- In medical schools, **language learning** is compulsory
- **Medicine and tourism** are seen as desirable sectors for training and development
- In Bulgaria, labour costs are among **the lowest in Europe**, which is the underlying reason for the competitive prices of medical services

Average gross annual earnings, (€)





Last year, salaries in the private health sector exceeded those in the public sector, but are still lower than salaries in EU countries



The list of specialists working in the sector is quite long:

**Medical staff:**

- Doctors, nurses, dentists, dental technicians, laboratory physicians
- Therapists: masseurs, physical therapists, occupational therapists

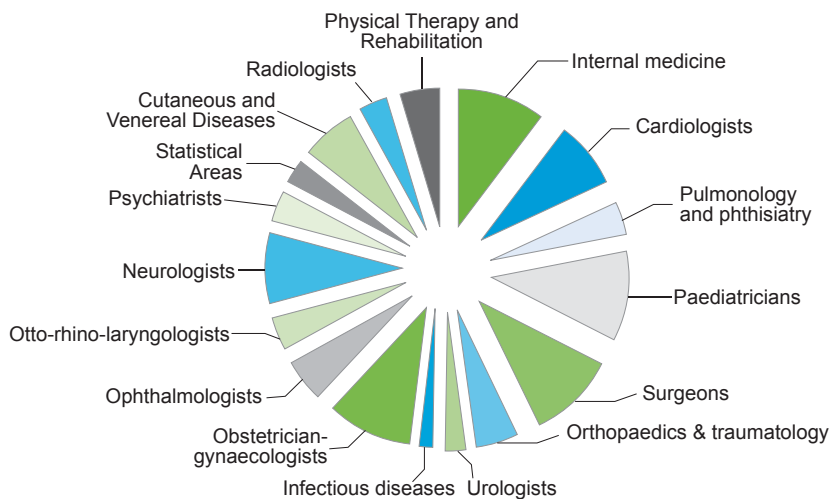
**Tourism staff:**

- Administrators, tour operators, chefs, waiters, guides

There are five medical universities in Bulgaria, teaching about 15 000 medical students across the country



### Relatively even distribution of narrow subspecialties



Source: National Statistical Institute

### Medical University - Sofia

- Faculty of Medicine
- Faculty of Dental Medicine
- Faculty of Public Health
- Faculty of Pharmacy
  - Students are trained at the hospitals of 13 university hospitals: “Alexandrovska”, “Sveta Ekaterina”, “Tsaritsa Joanna”, “Maichin Dom” and others
  - Approximately 4 000 students are in training, including 800 foreign students from 51 countries
  - Around 2 000 are teachers and researchers, and 2 300 training for specialists



**In a rating study carried out by the Institute for National Policy in 2009, the Sofia Medical University ranked first and is rated as the most prestigious university from among 50 private and state universities.**

### Medical University - Plovdiv

- Faculty of Medicine
- Faculty of Dental Medicine
- Faculty of Public Health
- Faculty of Pharmacy
- Medical College
  - Specialties: medical laboratory technician, radiology laboratory technician, physical therapist, dentist, pharmacy, health inspector
  - Around 2 500 students and 200 PhD students are trained there





[www.mu-pleven.bg](http://www.mu-pleven.bg)

### Medical University - Pleven

- Faculty of Medicine
- Faculty of Public Health
- Faculty of Healthcare
- Medical College
  - Specialties: medical rehabilitation and occupational therapy, public health and health care management, nurse, midwife, medical laboratory technician and X-ray technician and others
  - Around 800 students are trained there
  - Approximately 4 100 Bulgarian and 600 foreign students from 29 countries have received their education at MU Pleven



[www.mu-varna.bg](http://www.mu-varna.bg)

### Medical University - Varna

- Faculty of Medicine
- Faculty of Dental Medicine
- Faculty of Pharmacy
- Faculty of Public Health
- Medical College
  - Since its establishment, over 8 300 Bulgarian students and about 1 000 foreign students from 45 countries have graduated from here
  - Courses for masseurs and therapists are constantly organised.



[www.uni-sz.bg](http://www.uni-sz.bg)

### Trakia University - Stara Zagora

- Medical Faculty with University Hospital:
  - Specialties: medicine, social work, healthcare management, midwife, nurse
- Medical College:
  - Specialties: physical therapist, medical laboratory technician
  - Around 6 000 students have studied here, including 300 foreign students

- According to the National Statistical Institute, in 2011, 3 552 students completed their studies in the Health sector, and 776 in the social work sector
- Each year, about 800 graduate medical students, 460 nurses, 200 therapists, 70 midwives, 200 pharmacists, and 60 dentists graduate from all universities and the 12 medical colleges across the country
- Specialities such as doctor of medicine, medical rehabilitation and occupational therapy, kinesiology, physiotherapy, occupational therapy, nursing, midwifery and others are also studied at the Sofia University, the South West University of Blagoevgrad, Ruse University, and the National Sports Academy in all medical colleges



Sofia University



National Sports Academy

South West University  
of Blagoevgrad

University of Ruse



## There are many Bulgarians who practised abroad, then returned to Bulgaria and are a valuable human resource capital



**Dr Dorian Bosev,**  
obstetrician,  
University Hospital  
of Gynaecology and  
Obstetrics

In 2008-2009 he worked as assistant to Dr Cameron Nezhad at Stanford University Hospital in Palo Alto, California

Dr Dorian Bosev is one of the people who worked abroad but chose to return to his home country.

I want to work in Bulgaria; I want to work at the University Hospital. I think it has good prospects and I want to help Bulgarians.



**Kaloyan Dimitrov**  
Kinesiologist

In 1997, he graduated from the National Sports Academy. For three years, he worked in private physiotherapy centres in Bahrain and Kuwait.

In the Arab world and the West, spa procedures are considered luxury and show a certain social status.

Kinesiologists can find employment both in hospitals and in spa centres.

Many rehabilitation therapists, kinesiologists, physiotherapists and massage therapists and nurses work in the Gulf region. We are treated with the necessary respect and authority. We are very good specialists, we adapt quickly and learn quickly - we are great practitioners!



# **OVERVIEW OF HEALTHCARE AND MEDICAL TOURISM IN BULGARIA**

## Bulgaria relies on good traditions in healthcare

- The health sector in Bulgaria relies on **experienced professionals** (doctors, dental technicians, nurses, therapists, pharmacists, researchers)
- **Internationally recognized medical doctors** in various specialities such as heart disease, orthopaedics, oncology, dentistry and others
- **Low prices** of medical procedures
- Established **private health insurance funds**
- Opportunity to build **private medical centres** to make use of the existing workforce, adequate legislation, manufacturing of medical supplies, devices and pharmaceuticals

## Bulgaria boasts many achievements in the medical field



Prof. Zlatko Penev, MD, is an internationally recognized Bulgarian doctor and scientist. In 1984, CuBr laser was used in dermatology for the first time ever by Dr Penev, on patients with haemangioma.

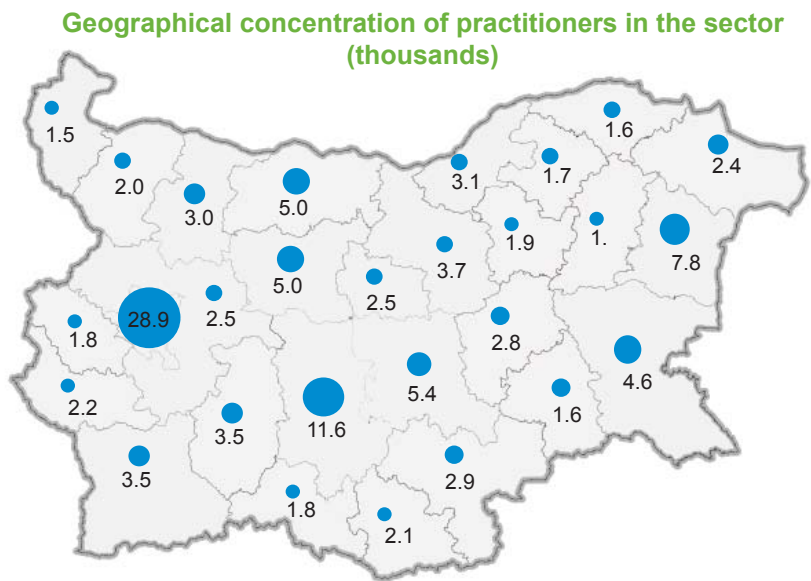
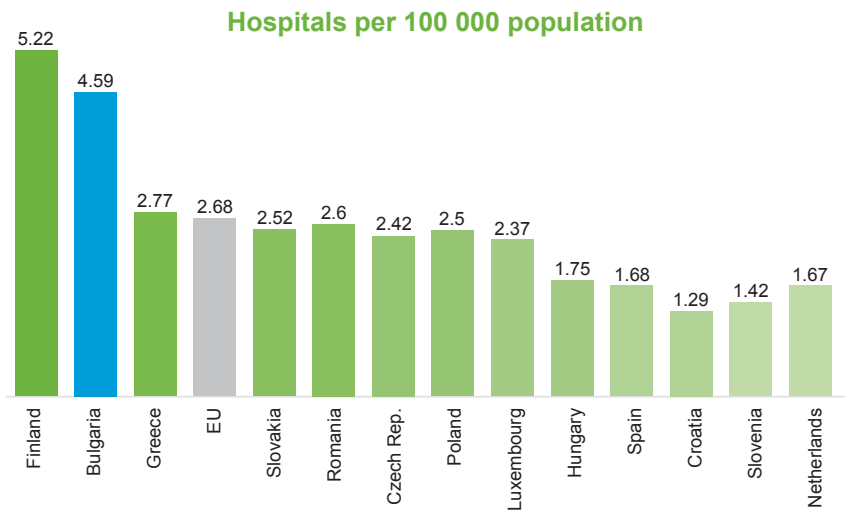


In 1959, Dr Dimitar Paskov isolated from the extract of Loddon Lily the alkaloid Galanthamine. It is used to treat polio, dementia, progressive muscular dystrophy, myasthenia, myopathy, birth palsy in newborns....



In 1972, Prof. Ivan Ivanov Mitev discovered the sixth electrocardiogram wave called the U-wave.

Bulgaria is among the top countries by the number of hospitals per capita and the labour force is distributed evenly throughout the country's territory



Source: WHO / Europe, HFA Database 2012

## Many different types of hospitals and medical centres are distributed throughout the country's territory

- **52.4%** of hospitals in Bulgaria are **multi-profile (general) hospitals**
- The largest number of beds is in **university hospitals**
- **14 specialized hospitals** for continuous treatment, prolonged treatment and rehabilitation operate in the country
- **There are also 22** specialised hospitals for **rehabilitation**

2011		
Medical and healthcare establishments	number	beds
Medical establishments for hospital care	344	47 391
Multiprofile hospitals	167	31 546
Specialized hospitals	148	13 265
Comprehensive Oncological Centres	7	1 152
Medical establishments for outpatient care	1 770	924
Diagnostic and Consultation Centres	121	263
Medical centres	559	617
Dental Centres	49	6
Dental Medicine Centres	35	38
Independent medical diagnostic and technical laboratories	1006	-



## Bulgaria has entered the top list for health tourism

THE  
INDEPENDENT

### Bulgaria could become a medical tourism haven!

The cost-to-quality ratio of health services in Bulgaria is very attractive to people from Western Europe.

The most sought-after services include: the treatment of infertility, plastic surgery, dental care, hip replacement surgery and laser eye surgery. They are all reasonably priced and carried out by highly qualified specialists in Bulgaria!

The Independent

“We have tremendous capacity to develop medical tourism. Even now we are being contacted by patients from Scandinavian countries, Canada, the UK and others with trauma and orthopaedic problems, ophthalmic diseases, chronic heart disease and others.

Dr Drenski, Executive Director of  
Tokuda Hospital Sofia



## Ophthalmic Surgery



### The most popular procedures include:

- Laser treatment of cataracts and glaucoma
- Laser correction of nearsightedness, farsightedness, astigmatism
- Keratoplasty (corneal transplant)
- Strabismus (cross-eyed)
- Retinal detachment; Cryotherapy
- Laser treatment for diseases of the retina
- Pterygium (exterior cataract)
- Chalazion, entropium, ectropium, ptosis
- Dacryocystorhinostomy etc.



I was very pleasantly impressed by Bulgaria! I live in California and have access to the best laser eye centres in the world. I am glad to say that the Bulgarian clinic belongs to the international elite. The equipment is state-of-the-art. I was given the highest quality care and got the best possible result: I have my eyesight back 100 percent without wearing glasses. For someone like me working in the film industry, nothing is more important than good eyesight!

Jessie Steele - film director  
from Steven Seagal's team



**Lasik (laser-assisted in situ keratomileusis) eye surgery costs €2 800 in the U.S., and €175 in Bulgaria**

## Plastic Surgery, Dermatology and Cosmetology

**One of the biggest advantages is the affordable price of procedures:**

- Breasts: enlargement, shaping, lifting, reducing etc.
- BOTOX, FILLERE Mesotherapy
- Abdominal, face, nose, eyelids, hands, ears plastic surgery, liposuction
- Plastic correction of the thighs, buttocks
- Gynecomastia; Andrology
- Gastric ring, etc.



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Bulgarian dermatologists use state-of-the-art techniques such as mesotherapy (injection directly into the dermis of vitamins, trace elements and substances making up the skin) injection of hyaluronic acid to fill wrinkles and lines.

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- Facial mesotherapy
- Chemical peeling; Dermabrasion and microabrasion
- Filing - Facial Line Filling; Botox; Vaposone
- Collagen rejuvenation; Iontophoresis
- PTF technology photoepilation and photorejuvenation
- Treatment of acne, dilated capillaries, rosacea, telangiectasias



- A face lift in Bulgaria costs around €1 200
- Full correction of the lips starts from €450
- Liposuction - €3 000
- Breast enlargement surgery - an average of € 3 500
- Full Face Lifting - USA - €15 000, Bulgaria - € 4 500

## Spine Surgery

### Bulgaria provides state-of-the art surgical treatment



- Treatment of diseases of the spine and spinal cord
- Disc degenerative disease
- Herniated discs
- Spinal stenosis
- Osteoarthritis of the sacroiliac and intervertebral joints
- Trauma, tumours and inflammatory diseases of the spine and spinal cord



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Endoscopic spinal surgery is available in Bulgaria, using specialised technical equipment and highly trained specialists.

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**In cases of deforming arthrosis, arthritis, spondylitis, or chronic back pain, various programmes are provided:**

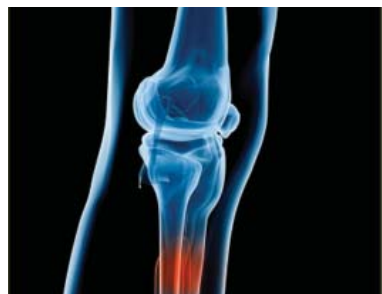


- Bone & joint diseases programme
- Programme for musculoskeletal disorders: injury and bone fractures, dislocations and stretched tendons
- Treatment of initial or advanced osteoporosis through a specialized medical spa programme

## Orthopaedic surgery - bone and joint diseases

**The most advanced computer navigation with infrared cameras and 3-D imaging is used for joint replacement operations**

- Knee and hip replacement
- Knee arthroscopy
- Shoulder arthroscopy
- Operation of the shoulder muscles; shoulder joint angioplasty
- Surgical joining of vertebrae
- Surgery in spinal stenosis
- Tendon repair - Achilles tendon, folding muscle



Hospitals in Bulgaria perform computer-assisted surgery of osteoporosis damaged meniscus and joint ligaments. Joint replacement operations /hip, knee, shoulder, ankle/ involve minimally invasive procedures, the latest generation of implants are used.



**Bulgaria provides a state-of-the-art method called minimally invasive surgery /laparoscopy which allows surgical operations to be performed through very small incisions - up to 1 cm, with video imaging, for operations of the gallbladder and biliary tract, appendix, hernia, etc.**



**Hip replacement surgery in the U.S. costs €12 000, while the price in Bulgaria is €4 000**

## Aesthetic Dentistry and Implantology

**Dental procedures are among the most highly appreciated in the EU and Russia**



- Therapy - in caries, pulpitis, gangrene
- Aesthetic procedures - whitening, crowns, cosmetic dental surgery
- Orthodontic treatment - brackets etc.
- Dental technician's services - dentures



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Bulgaria provides state-of-the-art dental implant procedures, and Bulgarian dentists work with the latest technology and equipment for front teeth brackets, porcelain stops, complete dentures, elastic dentures, model cast dentures, laser teeth whitening and more.

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**Dental service prices in Bulgaria are 60% lower than the average prices in Western Europe.**  
**Packages for your dental vacation in Bulgaria are between 2 500 to 4 040 Euro.**



- Making and fitting of ceramic crown - €327
- Implant (Bredent medical) - €614
- Photopolymer filling - €51
- Bone repair - €409
- Ceramic facing - €205
- Complete denture - €399



## Assisted reproduction

**The success rate is comparable to that in industrialised European countries**

- Intrauterine insemination with partner or donor sperm
- Follicular puncture
- Embryo donation
- Embryo transfer
- In vitro fertilization of ova
- Testicular Sperm Aspiration
- Microsurgical Epididymis Sperm Aspiration
- Embryo transfer
- Implantation and development of the fertilized egg
- In vitro maturation of ova and more.



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### Why IN VITRO baby in Bulgaria?

- Bulgarian IVF clinics have the knowledge and experience needed in reproductive medicine
- There are no restrictions in terms of in vitro procedures and methods of diagnosis before the procedure, ovum and sperm donation, as well as freezing of ova, sperm, or embryos
- Higher age limit for women to undergo IVF (51 years for both donor and non-donor insemination)
- There are no restrictions concerning single women or single-sex couples



**The adoption of a special Act on surrogate pregnancy is pending.**

**A number of reproductive procedures are performed in Bulgaria, including in vitro fertilization, egg donation, stem cells freezing.**

## Physiotherapy and Rehabilitation

**The combination of hospitals (medical centres) in climatic and spa resorts in Bulgaria provides an extremely suitable combination of surgical procedures and subsequent physiotherapy and rehabilitation**



Bulgaria offers many treatment programs such as:

- Rehabilitation and relaxation with mud and lye treatment
- Quitting smoking through acupuncture
- Treatment in a hyperbaric chamber with 100% oxygen under high pressure to maintain a young and healthy body and improve natural defence mechanisms
- Healing spa packages, etc.



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Bulgaria is just a short flight away from European countries. Treatment can be combined with any kind of tourism - seaside, mountain, spa, ecotourism, rural, cultural, archaeological tourism.

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**Physical medicine is a relatively young medical speciality and it covers the prevention and treatment of the so-called “diseases of modernity”: injuries of the musculoskeletal system, rheumatic diseases, diseases of the nervous system, metabolic diseases, osteoporosis, stress and hypodynamia - by successfully combining natural environment and spa factors.**

## Diagnostics and Prophylaxis

**In modern medicine, diagnosing various diseases, symptoms and predispositions helps the patient seek prophylactic treatment before the disease progresses to complications**

Bulgaria provides state-of-the-art equipment for laboratory tests and examinations and X-ray imaging.

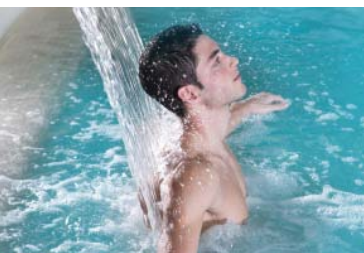
One of the prophylactic programmes combined with a holiday in a Bulgarian resort may include:

- Full clinical examination
- Ultrasonography of the prostate (for men)
- Ultrasonography of the abdomen
- ECG
- Ultrasonography of the breast (women)
- Laboratory tests - complete blood count
- Ophthalmic examination, funduscopy examination and others



**Bulgaria provides all necessary procedures - prevention, diagnosis and outpatient treatment of gynaecological diseases in women of all ages.**

## Bulgaria is among the countries providing the most favourable conditions for recovery and healing through water



The most significant effects of mineral water treatment in Bulgaria are:

- Lowering blood pressure and improving heart functions
- Regeneration and strengthening of the immune and cardiovascular systems
- Improved metabolism
- Elimination of functional disorders
- Anti-inflammatory effect
- Some mineral waters enhance the body's resistance to radiation effects
- Beneficial effects for bronchitis, joint, kidney, skin, gynaecological diseases and others
- Health-enhancing underwater massages and underwater gymnastics

Thalassotherapy methods offered in Bulgaria are based on the healing power of seawater, sea minerals and algae.



**Most types of mineral water are suitable for bottling, everyday use, and balneoprevention at home.**



**Mineral water can be used as a source for geothermal heating and cooling in different seasons. Ancient Roman baths on our territory were heated with mineral water.**

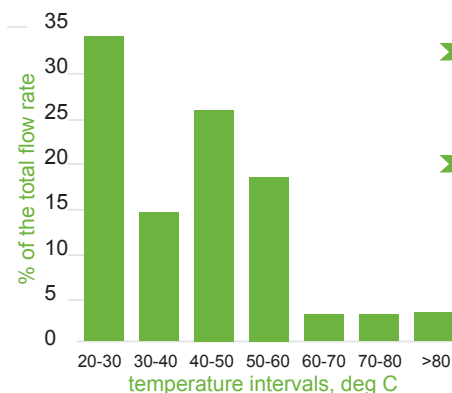
## Mineral water is among Bulgaria's most valuable natural resources

Bulgaria has about **600** operating deposits of mineral water and 1 600 springs, but only 30% of them are being used:

- Temperature (10° C - 103° C) with proven medicinal properties
- 0.5 - 63 l / sec - capacity of the mineral springs
- The total capacity is about 270 million litres per 24 hours
- 400-1500 m depth of the mineral springs
- 55% of the total flow is low alkaline water (pH 7.2 -8.2)
- There are about **65 balneological resorts**
- Each resort has thermal springs with curative effects on various body organs and systems
- Mineral waters are fit for human consumption
- Most resorts are located in mountainous regions of Bulgaria and provide fresh air and perfect conditions for recovery



### Flow rate distribution (in %) for temperature intervals



- The flow of mineral springs varies from several litres to several thousand litres per minute
- **80%** of all springs in the country are **warm or hot**, scattered throughout the country
- Sapareva Banya features the only active geyser on the Balkan Peninsula; its water is the hottest in Europe - **103° C**

## Bulgaria's biggest advantage is that mineral





water is available throughout its territory



## Every known type of natural mineral water has its representative in Bulgaria

Bulgaria ranks second in Europe after Iceland and is well ahead of countries with proven tradition in balneology in terms of existing, developed and registered (certified) mineral water resources

	Czech Republic	Hungary	Bulgaria
Number of mineral springs	463	450	600
Average temperature of mineral water	70 ° C	65-70 ° C	70-75 ° C
Warmest spring geyser	73 ° C	96 ° C	103 ° C

The mountainous and coastal areas with mineral water springs in Bulgaria have proven advantages over most bioclimatic resorts and healing centres in North Western Europe, the Sudetes, Carpathians, French Massif Central, and even the Apennin es.

Prof. of Geological Science  
Kostadin Shterev, Ph.D.

According to Prof. Kostadin Shterev, Ph.D. in Geological Science, who is the author of the hydrogeothermal overview of Bulgaria in the European Commission's publication "Atlas of Geothermal Resources in Europe":

- In Bulgaria there are **huge reserves** of underground mineral springs
- It is argued that if the total flow of all of them were to be summed up, it would exceed the amount of all bottled mineral water in the world
- The total usable annual volume of mineral water reserves is over **100 million cubic meters**, but only 6% of these deposits have been well studied

Mineral and thermal water are an unlimited and impressive wealth of Bulgarian nature. Their abundance and diversity ranks Bulgaria among the top countries from the hydro-thermal regions of the Balkans, Europe, and the Mediterranean.

Dr. Iva Markovska - Manager of Medical Spa Centre in Bulgaria

## Bulgaria features a large number of balneological facilities providing rehabilitation and physiotherapy



**Electrotherapy** - introduction of drugs through the skin using an electric field

**UHF** - therapy: treatment by ultra high electric field

**Performed in** sanatoria, medical centres, and hospitals



**Manual therapy** - massages, flexing

**Performed in** many places, including hotels, sports & medical centres, therapy centres, sanatoria, hospitals



**Radiotherapy**

**Laser therapy** - most often used to treat skin diseases

**Radiation therapy** - most often used to treat malignant tumours

**Ultraviolet therapy** - to strengthen the immune system and bones



**Kinesiotherapy**

**Set of exercises to:** correct spinal deformities, rehabilitation after surgery etc.

Specialists in kinesiotherapy work in sanatoria, medical and university centres and hospitals.



### Ultrasound Therapy

**Ultrasound** treatment, mostly for breaking kidney and bladder stones

**Mainly available** in medical centres and sanatoria.



### Hydrotherapy

Treatment using **hot and cold showers**, baths and water massages, better known as **balneotherapy**.

#### Indications:

Balneotherapy enhances the heart's functioning as it contributes to an easier flow of blood towards the heart.

Mineral water can be used for underwater massage and underwater gymnastics.

Its beneficial effects are especially noted for bronchitis, joint, kidney, skin, gynaecological diseases.

**Available in** spa centres, sanatoria and hospitals.



### Climatotherapy - treatment using favourable **climatic conditions**.

Bulgaria boasts a large number of resorts with therapeutic climate - the Black Sea coast and mountain resorts.

**Heliotherapy** - through sunbathing

**Aerotherapy** - through air-bathing

**Thalassotherapy** - seawater and algae

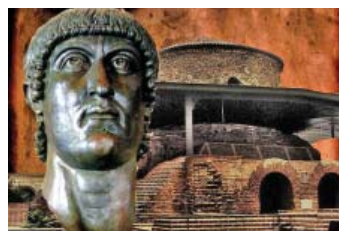
**Aromatherapy** - essential oils

performed **without medical assistance** during vacations at certain resorts.

The effects of climatotherapy are amplified when combined with other types of physiotherapy.

## Thracian and Roman period

- In Roman times (I-VII century) balneological resorts were mostly used **for improving physical power of Roman legions**
- Near mineral springs **temple-bath-infirmiry complexes**
- Bulgaria was virtually strewn with baths and balneotherapy sanatoria: **Augusta /today Hisar/, Pautalia /Kyustendil / Thermopolis /Bourgas Mineral Baths/ Germanea /Sapareva Banya/, Tanzos /Sliven Baths/ Serdica /Sofia/**
- Bulgaria's capital city **Sofia** was founded and developed thanks to its mineral springs. It is because of them that **Emperor Constantine the Great said: "Serdica is my Rome!"**
- It was this far in the past that mineral waters were **classified** for the first time



Fiery heat erupted from the spring, the first and the best among numerous other springs all over the world for treating patients.

The Gothic chronicler Jordanes (VI century) described Thermopolis (today's Bourgas Mineral Baths)

- Spas **were built by the emperors** Trajan, Septimius Severus, Maximilian, and Justinian
- **The largest Roman bath on the Balkan Peninsular** was the Roman bath in Varna, built at the end of the 2nd century
- Thermopolis (Bourgas Mineral Baths) was a large spa centre visited by numerous **Roman and Byzantine emperors, Bulgarian kings, and sultans of the Ottoman Empire**

The healing properties of mineral water near Bourgas were described by the Turkish traveller Evliya Celebi in the 17th century. He claimed that in all his travels around the world he had never seen water more healing!

## Thracian and Roman period



- **Hissar** (also known in the past as Augusta, Diocletianopolis, Seuthopolis, Aleksipolis, Toplitsa) - is a town with a rich **millennia-long history**, back from the times when the Thracians used its mineral water for medical purposes
- In the 5th-4th millennium B.C. around the mineral springs were built healing and religious sanctuaries - **nymphaeums** (temples devoted to the Nymphs, worshipped as deities of healing spring water)
- In 293, **Romans** built their **third largest city** in the province of Thrace - Diocletianopolis, named after **Emperor Diocletian**

**Emperor Diocletian was the first to introduce bath entrance fees in the world.**

- The 11-metre fortification walls and the internal architecture of the town are among **the best preserved** Roman forts in Europe

The baths of Diocletianopolis are among the few preserved Roman baths on the Balkan Peninsular. They were lined with white marble, heated with mineral water running along clay pipes, and provided multiple procedures and mineral water treatment.

**Evidence of the healing properties of Hissar mineral water is the local Museum of Kidney Concrements - a collection of about 10,000 stones excreted during and after medical treatment in Hissar.**



## Middle Ages and Modern Times

- In the 9th century Kliment Ohridski established the Ohrid School and the first hospital at the Kliment Monastery in Ohrid
- It is believed that St. Ivan Rilski was helping patients there, and wrote the book entitled “Lekarstvenik” (Medicine Book) one of the earliest pieces of evidence of medical activity in Bulgaria
- Mineral water was mainly used for hygiene purposes - Turkish baths were built most often on the ruins of their Roman predecessors
- 1885 During the Ottoman domination, the first Bulgarian **Catalogue of Mineral Water** was published
- In 1891 the first **Act** of Parliament on the protection of mineral water springs was adopted
- In the early twentieth century, modern and attractive balneotherapy sanatoria were built near the locations of ancient Roman baths



**The first chemical analysis of mineral water in Bulgaria was carried out in 1882 using water from five mineral springs in Hissar, and to this end the Government of Eastern Rumelia issued “Regulations on the Exploitation of the Hissar Baths.” - This was the beginning of balneotherapy in Bulgaria!**

- In 1950 a number of national **resorts** were established; they specialized in different groups of diseases
- 1959 Two types of **health establishments** were established: balneotherapy hospitals and balneotherapy sanatoria
- By the end of the 20th century the large number of resorts in Bulgaria were structured into: sanatoria, resort clinics, boarding houses, holiday homes, balneotherapy hospitals, and mud therapy hospitals



## Bulgaria appears on the European SPA map



- There are numerous hotels, sanatoria, clinics, but also **the opportunity to purchase** holiday homes, hotels (real estate at good prices in mountainous regions and the Black Sea coast)
- **Modern SPA hotels and spa centres** offer all year round spa and wellness packages and medical programmes. Almost all are 4 or 5 star establishments and have swimming pools, saunas, solariums, fitness centres, gyms, beauty salon, etc. and a team of well trained professionals

- Leaders in the world wellness and spa business is attending the 18th annual congress of the European Spa Association, scheduled for May 14th-17th in Bulgaria's coastal town of Pomorie.
- The very fact that Bulgaria has been selected to host such an important forum is a major recognition of the progress that the sector of wellness and spa tourism has made.

## 2006 saw the largest foreign investment in healthcare:

### Tokuda Hospital Sofia

Tokushukai Medical Corporation is now one of the largest hospital chains in the world, operating over 280 hospitals in Japan and one in Bulgaria! Over 120 million Euro was invested in Bulgarian healthcare.

#### The general hospital features:

- 32 clinics and wards
- 3 operating units in 22 surgical rooms
- Modern diagnostic centre
- High-tech equipment
- Centre for Preventive Medicine



- Tokuda marked its fifth anniversary by making a strategic investment in **medical tourism**, by opening the first international hospital ward for the so-called “medical” tourists
- More than 8 000 patients from other countries are treated at Tokuda - 400 from the U.S., 800 from Canada, 1 000 from the EU and 350 from Russia and the CIS, 200 from the Middle East and from Serbia, Greece, Macedonia, and Romania
- Tokuda Hospital Sofia provides world-class medical care to patients at significantly **lower prices** and no waiting lists

“The international ward was created in response to growing interest in **Bulgaria as a medical tourism destination**. Globalization and free access to information enabled millions of people to travel to receive diagnosis, treatment and rehabilitation in countries providing state-of-the-art facilities, high technology, qualified staff and competitive prices.

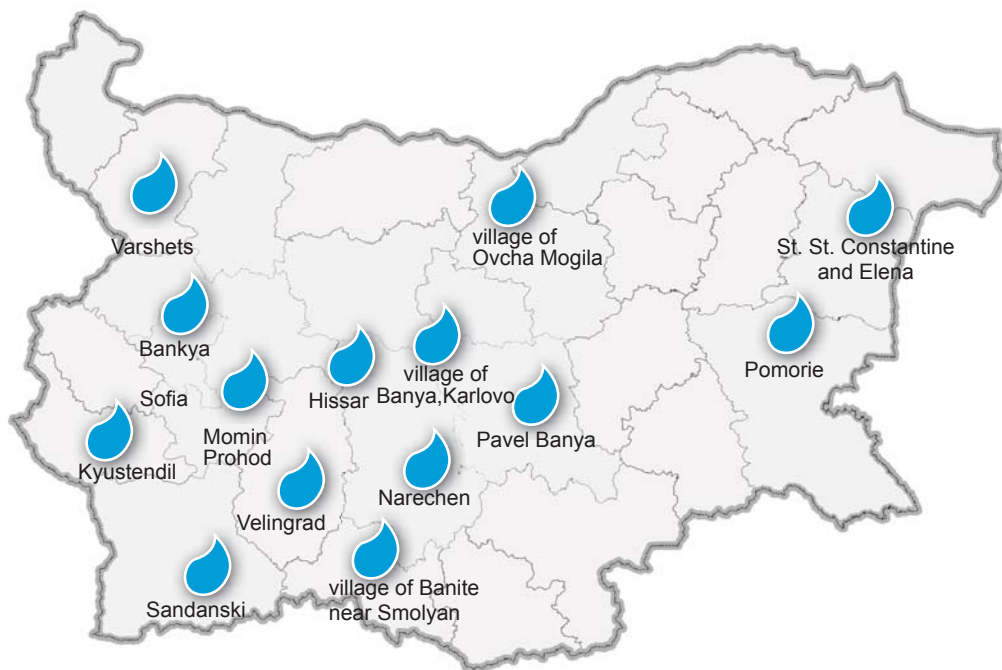
Dr Georgi Simeonov , Executive Director of DCC Tokuda

## Bulgaria ranks first in Europe according to the availability and diversity of mineral water and spa resorts

Bulgaria provides significant recreation and tourism potential with its 102 resorts:

- 34 of national importance (five mountainous and ten at the seaside)
- 68 of local importance (spa, forest and seaside)

### The most popular spa resorts in Bulgaria





Kyustendil: a city of  
millennial history from  
the time of Troy

- Kyustendil is located 90 km from Sofia, on the international road E-871
- continental climate with Mediterranean influence and an average annual temperature of  $+10.7^{\circ}\text{C}$
- around **40** mineral springs

**Mineral water:** hydrothermal, hydro-sulphate-sodium, sulphide, fluorine

- Temperature:  $T = 72$  and  $74^{\circ}\text{C}$ ; Mineralisation:  $M = 640\text{ mg/l}$  Acidity:  $\text{pH} = 8.133$ ; Flow:  $D = 2\,200\text{ l/min}$
- Trace elements: Cu, Zn, Pb, Fe, Mn, V, Co, Mo, W, Ti, Al, Ga, Ge, Sr, Ba, Li, B
- Tdeposit of valuable medicinal peat, rich in biologically active organic substances and hormones

#### Methods of treatment

- mineral water and curative peat

#### Indications for treatment

Diseases of the:

- bone & joint apparatus, peripheral nervous system, heavy metal poisoning; gynaecological diseases, infertility, burn trauma, respiratory tract, skin diseases, impaired glucose tolerance





## Velingrad - the Spa capital of the Balkans with 80 mineral springs



- Velingrad is situated 140 km from Sofia, at 800 m above sea level, in the Western Rhodope
- continental climate with Mediterranean influence
- average annual temperature of +10 °C

**Mineral water:** low mineralized, hyperthermal, hydrocarbonate-sulphate-sodium, fluorine, silicon and low radon content:

- Temperature:  $T = 37-81\text{ }^{\circ}\text{C}$ ; Mineralisation:  $M = 203-659\text{ mg/l}$ , flow rate:  $D = 5\ 000\text{ l/min}$ , pH:  $\text{pH} = 8.2-9.25$ ; radon:  $Rn = 81\text{ Em/l}$ ;
- trace elements: Cu, Zn, Pd, Sn, Fe, Mn, V, Cr, Ni, Co, Mo, Ag, Ti, Al, Ga, In, Ge, Sr, Ba, Li, B

### Methods of treatment

- mineral water and climate - a major therapeutic factor
- balneological treatment through baths, pools, underwater massage, therapeutic showers
- irrigations, inhalations
- kinesitherapy, paraffin treatment, full range of physiotherapy procedures





**Indications for treatment:**

- diseases of the central and peripheral nervous system
- inflammatory and degenerative joint disease
- orthopaedic & post-injury conditions
- inflammatory diseases of the respiratory tract and lungs, allergies
- cardiovascular diseases
- endocrine and metabolic diseases
- inflammatory and gynaecological diseases, sterility
- gastrointestinal diseases
- diseases of the excretory system
- some skin diseases: dermatitis, eczema, mycosis



On July 25, 1937 the city of Velingrad, consisting at the time of three villages, opened "its first-ever European mineral beach with large outdoor swimming pools."

Velingrad offers refined luxury and world class service at its five-star hotels:

- BSPA Hotel **Dvoretsa**
- Grand Hotel **Velingrad**
- Balneo SPA Hotel **Sveti Spas**
- Balneo Complex **Aquatonik**
- SPA Hotel **Select**
- **Park Hotel & Spa Max Velingrad** - the only hotel in town supplied from two independent water sources: one used for treatment, and the other for drinking



"The Pearl of Bulgarian Spa Tourism" as Velingrad came to be called, is the only town in Europe with 80 mineral springs.



Sandanski - the town recognized as the best natural “hospital” in Europe for bronchial asthma



- Sandanski is located 160 km south-west of Sofia, 20 km from the Bulgarian-Greek border and 115 km from the Bulgarian-Serbian border
- international road E-79 Sofia - Kulata - Athens

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The Roman settlement Dezudava (Sandanski) was established in the 2nd millennium B.C., and the Slavs later called it Sveti Vrach (Holy Healers).

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- Unique climate - temperate continental with distinct Mediterranean influence, with country's the highest average annual temperature (+14 °C) and lowest humidity (66%)
- **more than 20 springs** with similar characteristics - hyperthermal (72 ° -81 °), low mineral content, silicon, mild fluorine content, suitable for drinking and balneological treatment



The **mineral water** is hydrocarbonate-hyperthermal, with low mineral content, silicon content, sulphate-sodium content, slightly fluorinated, with pleasant taste, clear and without sediment

- T = 72-82°C; Mineralisation: M =0.51-0.6 mg/l, flow rate: D = 6-7.6 l/s; Acidity: pH = 7.5-8.7

**Sandanski is ideal for modern climatotherapy based on scientific research, spa treatment, rehabilitation, primary and secondary prevention and recreation**

### Methods of treatment

- the main curative factors are mineral water and climatic conditions
- physiotherapy procedures, medication & inhalation therapy, paraffin therapy, therapeutic exercise, hydrotherapy, climatic field trips

### Indications for treatment

- diseases of the respiratory system
- conditions following pneumonia, bronchiectasis, early stages of lung emphysema
- chronic joint disease, ankylosing spondylitis (Bekhterev's disease), spondylarthrosis, conditions following bone fractures, rheumatoid arthritis
- peripheral nervous system diseases, neuralgia, neuritis, plexitis
- post-stroke rehabilitation



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**Studies show that climatotherapy in Sandanski leads to complete curing of clinical symptoms such as breathlessness, coughing and expectoration in 80% of patients, reducing the need for medication.**

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## Pomorie - the most popular and modern mud therapy centre in the country



- established as early as 6th-5th century B.C. as a Hellenic colony, known for its healing mud
- 22 km south of Bourgas
- located on a beautiful Black Sea peninsula surrounded by vineyards and orchards
- the beach features sand rich in iron and manganese
- continental Mediterranean climate with +12.8 °C mean annual temperature



### Sea water is used

- The curative lagoon mud is black, fine, oily, with high viscosity, low radioactivity and contains many gases, amino acids and hormone-like substances

### Methods of treatment

- firth mud, brine, lye and seawater
- mud applications, mud and brine baths, cavity (vaginal and rectal swabs), Egyptian method (mud treatment outdoors), physical therapy, lye compresses, lye inhalations, kinesitherapy, massages - dry and underwater, acupuncture, laser therapy, dietary nutrition




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Curative mud is a natural product with inorganic and organic composition, formed as a result of geological, chemical, biological processes and physico-geographical factors: climate, soil, water, flora and fauna.

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**Indications for treatment:**

Diseases of the:

respiratory system, musculoskeletal system, peripheral and central nervous system, female reproductive system: infertility, male reproductive system: prostate, skin diseases, metabolism: general prophylaxis and strengthening.



A major role in the formation of curative mud is played by sulphate-reducing bacteria, especially *Vibrio desulfuricans*, which is involved in the formation of iron hydrogen sulphide, and it is the reason for the black colour of this type of mud, and, to a large degree, for its healing effect.

People smeared with mud are literally between the ages of 3 and 103. Those familiar with the procedure claim that one should spend about 20 minutes covered with mud for it to dry. This was the time needed for maximum use of its healing properties.



Mud or peloid therapy was historically known since before B.C. and originates from the Greek word “pelos” which means dirt, mud, peat.



A resort with a millennial history, used by the Thracians and in Roman times



- located 140 km from Sofia
- temperate climate with Mediterranean influence
- mean annual temperature is  $+11.9^{\circ}\text{C}$
- **24 mineral springs** gushing water at an average of about 4 000 l/min.



**The mineral water** is of low mineral content, hydrocarbonate - sulphate-sodium content with high alkaline reaction, silicon content, fluorinated, with a pleasant taste

- Temperature:  $T = 37-49^{\circ}\text{C}$ ; Mineralisation:  $M = 218-240\text{ mg/l}$  Acidity:  $\text{pH} = 8.5-10$ ; Flow rate:  $D = 1\,200\text{ l/min}$
- trace elements: Cu, Pb, Sn, Fe, Mn, V, Cr, Ni, Co, Mo, W, Ag, Al, TL, Ga, Ge, Sr, Ba, Li, As, B



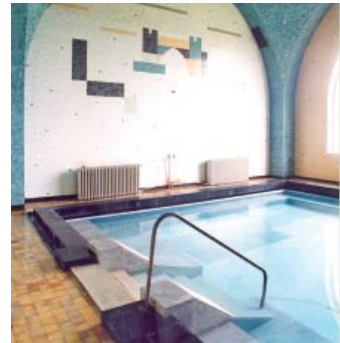
Hissar differs from our other resorts on the abundance of its hot springs and their diverse chemical composition, temperature and treatment properties. Each source has its own application, name and romantic legend ...





### Methods of treatment

- the main curative factor is water
- **balneological treatment through internal use**
  - the mineral water ingested by drinking works on the mucosa of the gastrointestinal tract, and has an excellent effect in liver and biliary diseases, kidney and urological diseases, general intoxication and others
- **external use:** underwater baths, thermotherapy, paraffin, di et treatment, different physiotherapy procedures, kinesitherapy, electrical and light treatment



### Indications for treatment:

- urinary system
- digestive system: chronic gastritis and gastroduodenitis, functional diseases of the stomach, dyspeptic syndrome, chronic nonspecific enterocolitis, ulcerous disease
- gallbladder and liver diseases
- metabolic diseases - metabolic syndrome: obesity, diabetes, gout
- musculoskeletal system
- gynaecological (inflammatory)
- neurological: discopathy, radiculitis, polynephritis





The mineral water at Pavel Banya has been used since Roman times



- located in central Bulgaria, in the uniquely beautiful Rose Valley
- continental climate
- mean annual temperature of +10.8 °C
- 7 mineral springs

**The mineral water** is mildly mineralized, hydrocarbonate-sodium content, hyperthermal, radon, silicon and fluorine content with a slightly alkaline reaction

- Temperature:  $T = 54\text{ }^{\circ}\text{C}$ ; Mineralisation:  $M = 646\text{ mg/l}$ ; flow rate:  $D = 600\text{ l/min}$ ; Acidity:  $\text{Ph} = 7.2$ ; radon:  $\text{Rn} = 114\text{ Em/l}$



### Methods of treatment

- mineral water
- electromyography, audiometry, Doppler sonography, underwater massage, paraffin therapy, remedial gymnastics, mechanotherapy, electro- and light therapy, manual therapy



### Indications for treatment

Diseases of the:

- central and peripheral nervous system - primarily the spinal cord, degenerative neurological diseases, orthopaedic, gynaecological, dental caries, gingivitis and others



Narechen, which is located not far from the popular international resort of Pamporovo, provides opportunities for recreation in both winter and summer

- located in Southern Bulgaria, in the Rhodopes
- transitional climate between the temperate continental and Mediterranean
- mean annual temperature of +9.5 °C

**The mineral water** - hyperthermal, with hydrocarbonate-sodium content, fluorine and radon content, clear, colourless, odourless, pleasant to drink.

- Temperature:  $T = 23 \text{ и } 31.2 \text{ }^{\circ}\text{C}$ ; mineralisation:  $M = 1566\text{-}1580 \text{ mg/l}$ , flow rate:  $D = 600 \text{ l/min}$ , Acidity:  $\text{pH} = 7.6 \text{ and } 7.27$ ; radon:  $\text{Rn} = 1027 \text{ Em / l}$
- trace elements: Cu, Pb, Fe, Mn, V, Mo, W, Ti, Al, Ge, Sr, Ba, Li, B

### Methods of treatment

- mineral water and climate
- mineral water baths and a mineral pool, pearl baths, hydrogalvanic - faradic - diadynamic, whirlpool bath, physiotherapy, paraffin therapy

### Indications for treatment:

Diseases of the:

- digestive system, nervous system, endocrine and metabolic diseases, cardiovascular diseases, rehabilitation and post-stroke and post-fracture conditions, liver and biliary diseases





The town which the Romans used to call Medeca (Healing), was established around mineral springs



- it is located in Stara Planina, near international road E-79
- mild temperate-continental climate, with influence from the mountain
- mean annual ambient temperature is +12 °C
- 2 mineral springs

**Mineral water** - hyperthermal, low mineral content, hydrocarbonate - sulphate-sodium content, highly alkaline, with pleasant taste



- Temperature: T = 36 and 33.2 °C; Mineralisation: M = 240 mg/l Acidity: pH = 9.7; Flow rate: D = 720 l/min
- trace elements: Cu, Zu, Fe, Mn, Ni, Mo, W, Ag, Al, Ti, Ge, Sr, Li, Ba

#### Methods of treatment

- the main methods of treatment are mineral water and climate
- tmineral water baths, special baths: gas-carbonic, oxygen, herbal, electric baths, jet baths.
- physiotherapy, laser therapy, paraffin therapy, kinesitherapy

#### Indications for treatment

Diseases of the:

- musculoskeletal system, central nervous system, endocrine and metabolic diseases, cardiovascular diseases, kidney stone disease, rheumatic diseases and others.





The oldest resort on the Bulgarian Black Sea coast, with a specific microclimate, purifying negative ions, old deciduous forest and mineral springs

- 10 km from the “seaside capital” Varna
- more than 3.5 km of beach
- 7 mineral springs with depth from 1 800 to 2 050 m

### The mineral water

- calcium & magnesium content, low mineral content
- Temperature  $T = 40^{\circ} - 60^{\circ}$ ; Flow rate:  $D = 175 \text{ l/s}$

### Methods of treatment

- The combination of mineral water and climate have a general effect on the body, strengthening immunity and helping reduce stress and fatigue

### Indications for treatment

Diseases of the:

- upper respiratory tract, endocrine system, musculoskeletal and functional nervous system, chronic skin infections, cardiovascular diseases, rehabilitation after myocardial infarction



Historical records show that the monastery in the resort (St. St. Constantine and Elena) was built in honour of Emperor Constantine and his mother Empress Helena who had visited what was then Odessos (now Varna) and treated at the resort with water from the mineral springs.







Without mineral water,  
we wouldn't have Sofia  
today!



- The Thracian city was founded on the ruins of a Neolithic settlement in the 8th century B.C. near the thermal springs, later the Romans gave it the name Serdica
- in the early 20th century, the iconic building serving as landmark for downtown Sofia was opened: the Central Mineral Bath, which will become a SPA museum and rehabilitation centre
- about **50** hydrothermal deposits in the vicinity of Sofia
- clean springs coming from a great depth
- there are **8** thermal water areas with **8** types of mineral water, some of them having 35-40 times higher mineral content
- the highest concentration of healthcare facilities: hospitals, clinics, medical centres, institutes, spa hotels, dental centres, scientific research units in medicine and pharmacy
- two universities with medical faculties
- the seats of many companies manufacturing pharmaceuticals and medical devices

Only Sofia out of all other European capitals has eight different types of mineral water to offer. It can treat up to 100 thousand people every day.

Prof. Kostadin Shterev - Hydrogeologist





Mineral water in Bankya was used even from the 15-16th century

- 17 km southwest of Sofia
- temperate-continental climate, with influence from the mountain
- mean annual temperature is +9.4°C
- 2 mineral springs

### Mineral water

- hydrothermal hydrocarbonate-sulphate-sodium silicon content and slightly fluorinated
- Temperature:  $T = 33-36^{\circ}\text{C}$ ; Mineralisation:  $M = 310 \text{ mg/l}$ , flow rate:  $D = 1\,100 \text{ l/min}$ , Acidity:  $\text{pH} = 9.53$
- gases - nitrogen, trace elements: Cu, Fe, Mo, Ag, Ti, Al, Ga, Ge, Sr, Ba, As, B

### Methods of treatment

- mineral water and climate
- balneotherapy in baths and pools for underwater exercises, therapeutic showers, sun-air baths, kinesitherapy, electric&light treatment, therapeutic massage, paraffin treatment, acupuncture and reflexotherapy

### Indications for treatment

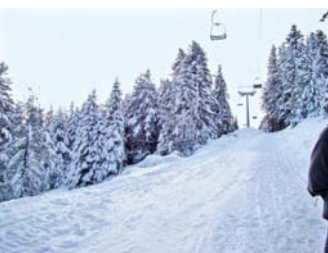
Diseases of the:

- cardiovascular system, nervous system, musculoskeletal system; metabolism





The town boasts the only hot water geyser on the Balkan Peninsula and continental Europe: the temperature of the water is 103 °C



- located at the foot of the Rila Mountain
- 75 km from the town of Sofia, near the E79 international road

**Mineral water** - hyperthermal, slightly mineralized, hydrocarbonate-sulphate, sodium, fluorine, silicon and sulphide content.

- its source temperature is **103 °C**. Every 20 seconds, an 18-metre jet of hot water gushes
- trace elements: sulphur with significant levels of iron, calcium and manganese



### Methods of treatment

- climatic conditions - heat, ultraviolet and aero-ionisation components stimulate healing processes, especially for cardiovascular, neurogenic and metabolic diseases, exhaustion, stress and tension

### Indications for treatment

Diseases of the:

- musculoskeletal system, peripheral and central nervous system, bones, joints, skin and teeth, upper respiratory tract, gynaecological diseases, acute and chronic poisoning with salts of heavy metals and others





## IBA Services:

- Macroeconomic information
- Legal advice
- Information on operational costs
- Regional data on unemployment, availability of skilled labour force, level of education, infrastructure, foreign investors and industrial zones
- Recommendation of vacant land
- Identification of potential suppliers, subcontractors or joint venture partners
- Individual administrative services
- Contacts with the central and the local authorities
- Contacts with industry chambers, local universities and NGOs



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## InvestBulgaria Agency

- 31 Aksakov Street
- Sofia 1000, Bulgaria
- Tel.: +359 2 985-5500
- Fax: +359 2 980-1320
- E-mail: [iba@investbg.government.bg](mailto:iba@investbg.government.bg)
- [www.investbg.government.bg](http://www.investbg.government.bg)