

**National Survey on the Interests, Activities, Opportunities and Contacts in the
Optoelectronic and Micro-optoelectronic Sector in Bulgaria**
(preliminary results)

I. Research Units

Name of the unit	Short profile
1	2
1. Laboratory “Lasers with Metal Vapours”, Institute of Physics of the Solid Bodies - BAS	Creation and development of new types of lasers with metal vapours. Finding a new highly effective alloy in the copper vapours. Partnership: Great Britain, Germany, Italy, Belgium, Poland and others.
2. Central Laboratory of Biomedical engineering – BAS	Biooptoelectronic – taking down biosignals of tissues and organs by reflecting and passing radiation. Partnership: Schiller AG – Switzerland
3. Laboratory “Laser Location” – Institute of electronics – BAS	Creation and development of laser locators for survey of the atmosphere parameters. Partnership: Italy, India, Russia and Belarus
4. Laboratory “Optical Radiometry” – Institute of Electronics – BAS	Remote surveys of the fields and objects of the infrared and visible optical spans. Partnership: Russia, Switzerland, England
5. Laboratory “Fiber and Nonlinear Optics” - Institute of Electronics – BAS	Nonlinear effects in the optical fibers. Partnership: University of Iowa, USA
6. Laboratory “Lasers with Condensed Environment” - Institute of Electronics – BAS	Creation of theoretic models. Development of specialised laser systems with application in the urology, oncology, ophthalmology. Partnership: France, Russia
7. Laboratory “Laser Systems” - Institute of Electronics – BAS	Creation of new optoelectronic methods for precise electromagnetic measurements. Development of the relevant devises. Partnership: France, Italy, Austria, Russia
8. Central Laboratory of solar-earth influences “Academician D. Mishev” - BAS	Development of devises and analysis of data from the spectrometry of penetrating optic radiation, of ultraviolet solar radiation. Equipment and monitoring of the cosmic satellites. Partnership: Germany
9. Work group “Remote methods of survey of the Earth and the planets” - Central Laboratory of solar-earth influences - BAS	Modeling of the optical parameters of the atmosphere. Exploring the optical specter of the total solar eclipse. Partnership: USA

10. Group “Video metric systems” - Central Laboratory of solar-earth influences - BAS	Survey of the reflective characteristics of the nature objects in the optic span. Development of the cosmic equipment for the satellite “Meteor-nature” and of the programme “Fabos” (Mars), intended to work in optic span.
11. United Research Group “Spectrometric remote surveys” (Central Laboratory of solar-earth influences - BAS and Institute of Electronics – BAS)	Development of multichannel equipment for optical surveys of the planetary conterminous layer, of the water vapours and of the clouds in the atmosphere. Creation of new method for measurement of the movement speed of the atmospheric fields.
12. Central Laboratory of Applied Physics – BAS (Plovdiv)	Development and implementation of photorezistors, photodiodes, position sensitive photodetectors, infrared lightdiodes.
13. Laboratory “Optical Sources and receivers” – institute of Physics of the solid body - BAS	
14. Department of the Central Laboratory of solar-earth influences - BAS – Stara Zagora	

II. Academic Units

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15. Department “Optoelectronic and optical communications” – Faculty of communication techniques and technologies in the Technical University - Sofia	Educational activities of optoelectronics, optical communications, laser communication and location systems. Work on contracts of optoelectronic monitoring. Private contacts: Russia, Italy, Sweden
16. Department “Optical communication networks”	Educational activity on optical communication networks. Developments on optical metrology.
17. Department “Optoelectronics and laser techniques” – Branch of Technical University – Sofia in Plovdiv.	Educational activity on optoelectronics. Creation of educational optoelectronic systems, of returnable lasers. Partnership: Germany, England
18. Department “Information and communication technologies” – Faculty of Physics of Plovdiv University “P. Helendarski” (group of optoelectronics)	Education activity on optoelectronics with stress on optical sources and detectors, optical processes. Research in this direction. Private contacts – Poland

19. Department “Medical physics and biophysics”, “Microbiology and immunology” of the Medical University – Plovdiv.	Creation and development of digital images, emanating information of the biophysical processes in the cells - implementation in the diagnostics of the autoimmune diseases. Partnership: England
20. Faculty of electronics of Technical University - Varna.	Educational activity on cable and atmosphere optical communication systems.
21. Laboratory “Optoelectronics and optical communications” in the Electronics Department of Technical University – Gabrovo.	Development of computer models of optoelectronic instruments, of infrared informational leading and protective devices. Partnership: Ukraine, Germany
22. Department: “Telecommunications” of New Bulgarian University - Sofia.	Educational activity on laser systems in the telecommunications and informatics, laser systems with specific designation, optical systems for signal convey.
23. Technical University - Bourgas	
24. High Transport School “T. Kableshkov” – Sofia.	

III. Private Companies

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25. “Pulslight” - Sofia	Production of lasers with copper bromide vapours and laser systems on their base with implementation in the medicine, industry, show business (original products). Partnership: Germany, Great Britain, Italy. Export: in USA, Mexico, Canada, Germany, Italy, South America, Israel and others.
26. “Optoelectron group” Jsc. - Panagurishte	Adaptation of special optoelectronic issues to the NATO standards. Development of instruments for night eyesight, of laser instruments. Cooperative production with companies from England, Spain, France, Germany
27. OPTELLA Ltd., Sofia	Development and producing of diagnostic and therapeutic optoelectronic systems with implementation in the clinical practice. Participation in the Fifth Framework Programme with partners from Italy, Austria and Germany

28. OPTEL – Optical Technologies Jsc. - Plovdiv	Development of laser systems and technologies. Participation in projects of Fifth Framework Programme of EU.
29. Atlantik Ltd. - Plovdiv	Development and production of laser therapeutic systems, dentist diagnostic optoelectronic apparatus, intra oral video cameras.
30. Section Optical lines of BTC Ltd.	Development of regulative base for optical lines building. Development of metrological methodic. Measurement of the parameters of the optic fibers and of the passive optoelectronic components.