



**CLUSTER FOR AEROSPACE  
TECHNOLOGIES, RESEARCH AND  
APPLICATIONS**

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**BUSINESS COLLABORATION INFORMATION & LETTER OF INTERESTS**

Cluster AEROSPACE TECHNOLOGIES, RESEARCH AND APPLICATIONS (CASTRA)-  
[www.castra.org](http://www.castra.org) is an industry driven Bulgarian consortia of high-tech SME's, Bulgarian Universities and R&D institutions from the Bulgarian Academy of Sciences and the Bulgarian Academy of Agriculture. CASTRA consolidates the national SME and Academia expertise and capacity in the area of industrial development and applications in the aerospace and related technologies. CASTRA and its member organizations are looking towards establishing business and R&D partnerships for implementing various business, academic and R&D activities of mutual benefit aimed at developing of innovative products and services, manufacturing, education and training activities and other.

➤ **Business to Business and applied R&D**

CASTRA offers activities, products and services related to its core expertise and capacity in the following areas of interest (examples; additional specific information is available upon request)

- High-speed satellite communications
- Small satellite platform development including subsystems and payload
- Satellite image data processing
- Unmanned Aerial Vehicle (UAV) development including composites, constructions, avionics, communications systems, telemetry, control software, power systems and other
- UAV payload development - sensors for: Remote Sensing, Natural Resources Discovery, LIDAR systems, Security applications and other
- UAV pilot training programs and facilities
- UAV test systems and simulators
- Aircraft systems software and simulators
- Aircraft repair and aircraft crew training programs and facilities
- Ground, aerial or spaceborn sensor development for various applications, incl. environmental monitoring
- Wireless sensor networks and GPS/GALILEO based tracking solutions
- Solutions for automation (Software/Hardware) and remote control of industrial manufacturing lines and processes
- Smart Building (including Industrial facilities) automation

- Energy efficient and environmental hazard robust LED based lightning solutions for industrial, public or business applications ( including hospitals and other low EMI requirement applications)
- Integrated circuit design , including aerospace high-reliability applications
- Cyber security education and training
- other custom industrial R&D activities

As a specific example, CASTRA is offering partnership for the implementation of a novel high value added business model in the area of satellite communication and imaging services, aimed at providing Earth Observation and full duplex high-speed communication services (Earth-space-Earth) to worldwide customers. This project is supported by the government *Invest Bulgaria Agency*, and it is announced on its web site. Please see the following announcement for additional information:

<http://www.investbg.government.bg/en/projects-detail/opportunity-for-investment-in-high-tech-project-small-satellite-150-58.html>

➤ Academic R&D and Education activities :

CASTRA offers joint definition and execution of R&D projects, implementation of education, professional qualification and training of experts and personnel; establishing of state of the art educational and R&D programs and activities (M.Sc. and Ph.D levels) in the field of “Aerospace technologies, research and applications” and relevant high-tech subjects such as mechanics, electronics, Information and communication technologies, computer science and other, including professional training programs.

As an example of such activities, CASTRA is acting as organizer of Academic and applied R&D events in the area of small satellite space engineering technologies. Visit <https://unisec2016.castra.org> for more details.

Looking forward your feedback and interest. Please contact us for additional specific information and discussion,

Yours faithfully,

*V. Vassilev*

Vesselin Vassilev, PhD(eng)

CEO

CASTRA

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