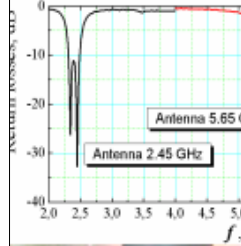
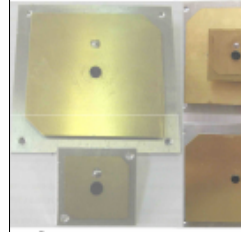
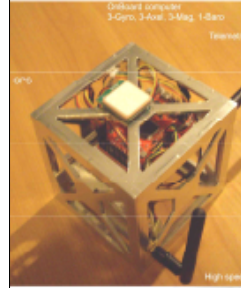


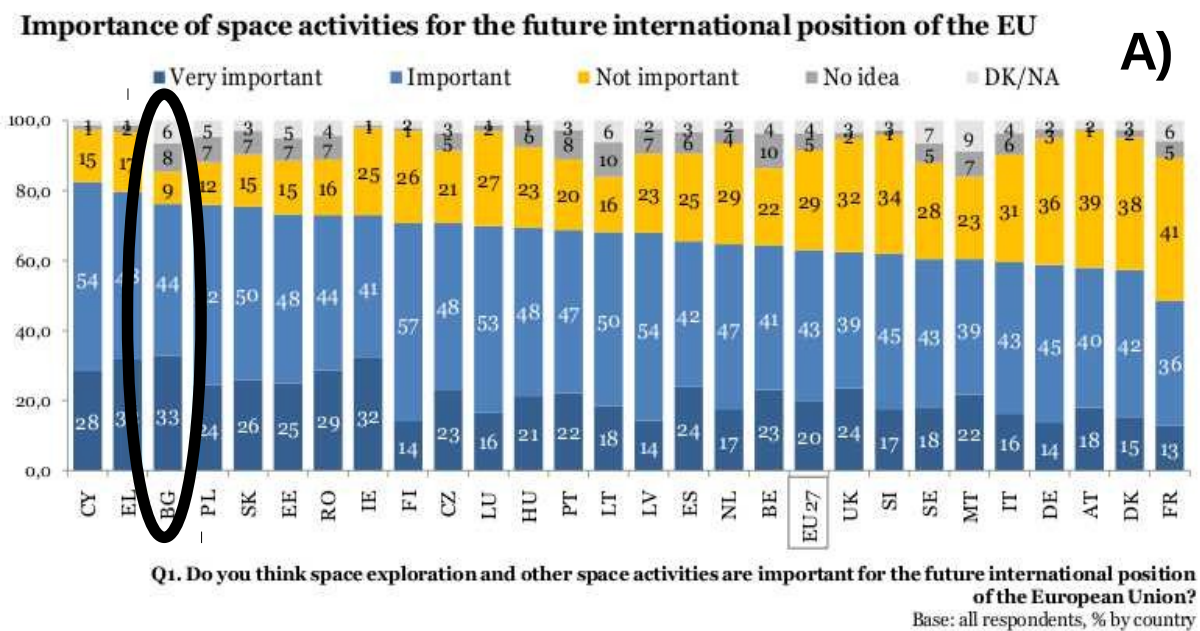
# Local Chapter Overview BULGARIA

## The 5<sup>th</sup> UNISEC-Global Meeting, December 2-4, 2017, Rome,

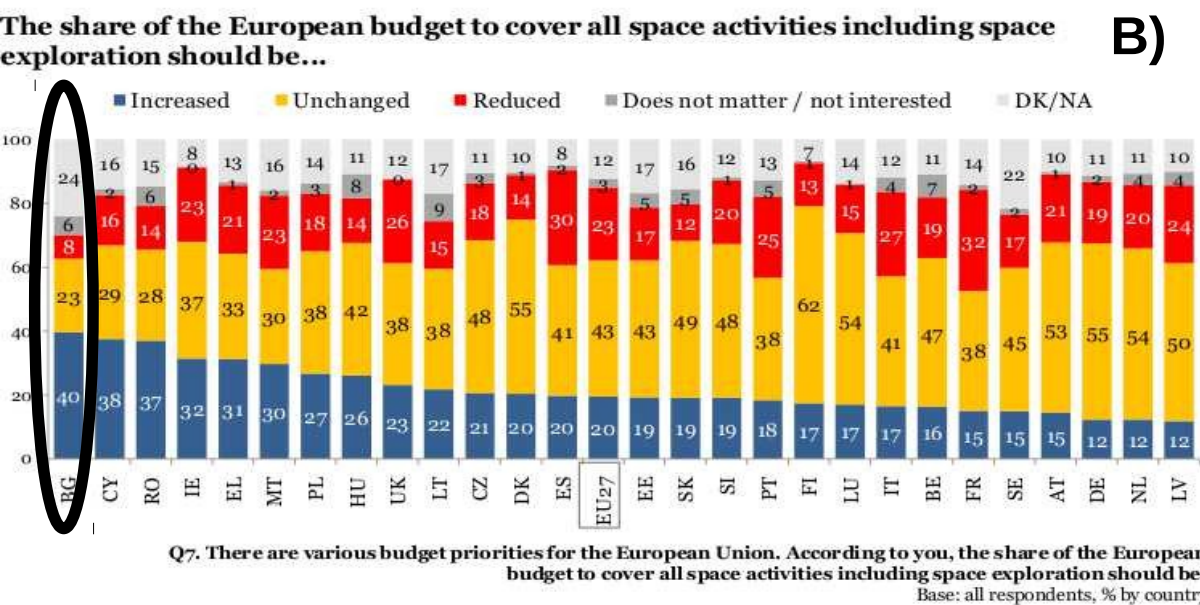
### Nikolay Tomov CASTRA



# Bulgarian Public Supports A LOT Investing in aerospace



The public opinion in Bulgaria strongly supports the importance of space programs for the EU future (see chart A).



The public opinion in Bulgaria supports the most the increase of the EU budget for space programs (see chart B)

EU survey analysis  
(‘Eurobarometer’, 2012)



# High-Tech space heritage

## Two Bulgarian R&D cosmonaut space flight programs implemented – 1979,1988

Developed unique experience and infrastructure in program management, developed numerous spaceborn and ground instruments and infrastructure, fundamental sciences and other related areas



## NEW high-tech SME potential

Electronics, IC design, automation, robotics, UAV systems, high-speed satellite communications, software and embedded systems and other.



# CASTRA's technology & R&D capacity: High-tech is in the veins of Bulgarian small business

Digital electronic systems



GPS tracking solutions



Embedded IoT systems



EMI/EMP protection equip

Solar electromagnetic storm

Induced electrical discharges and over-voltages

EMF - phase E1 and E3 of Nuclear explosion

50,000V/m for 200ns - E1  
2kV for 20-200msec - E3

3-12 GHz - 10kW  
500ns pulses - 10MW



ICT & BigData for space app

System on a Digital Chip

RADIATION HARD ASIC design



Virtual reality and REAL GAMES development



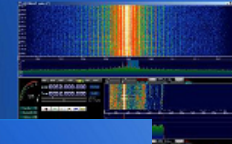
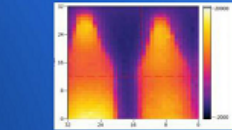
UAV systems

RF design

MW Antennas

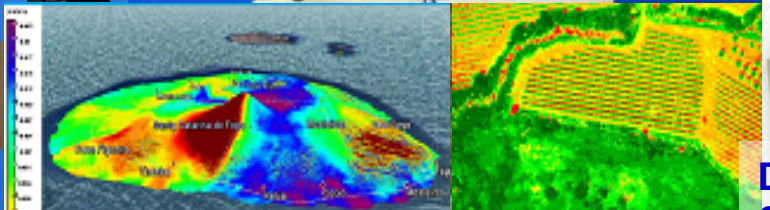
Dron detection and counter meas

Visual-MWIR camera, laser range finder, spe

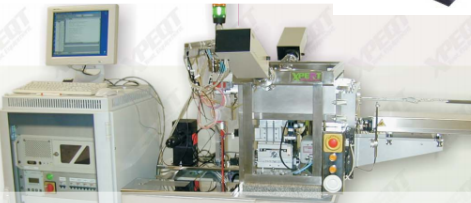


carbon fiber products for automotive, space, robotics, consumer

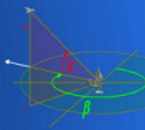
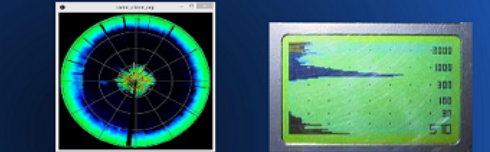
FMCW panoramic radar for drones



Multispectral and SAR data processing



Design & manufacturing of precision equipment and high-energy systems



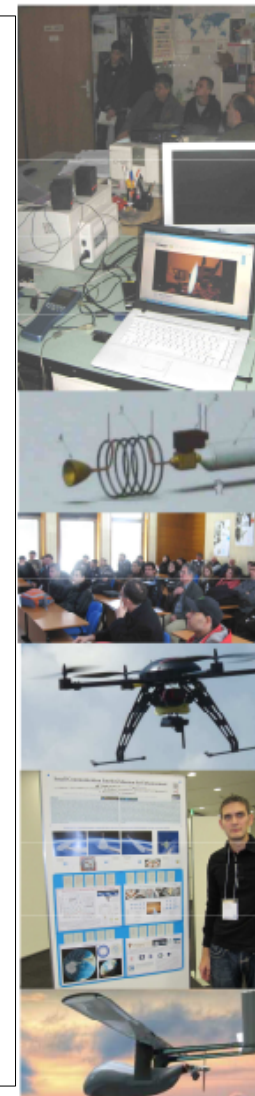
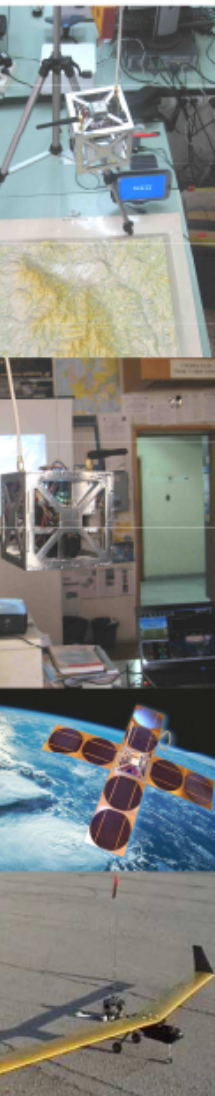


# UNISEC- BULGARIA

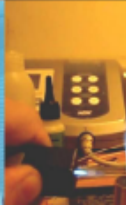
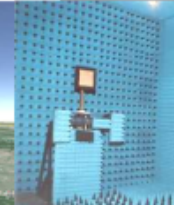
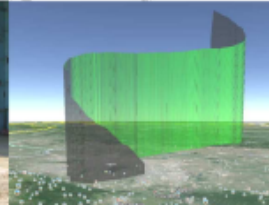
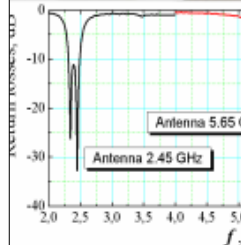
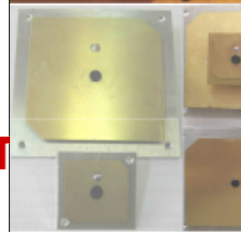
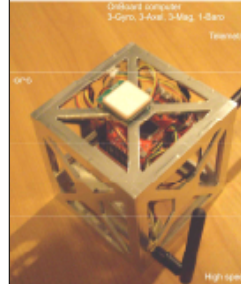
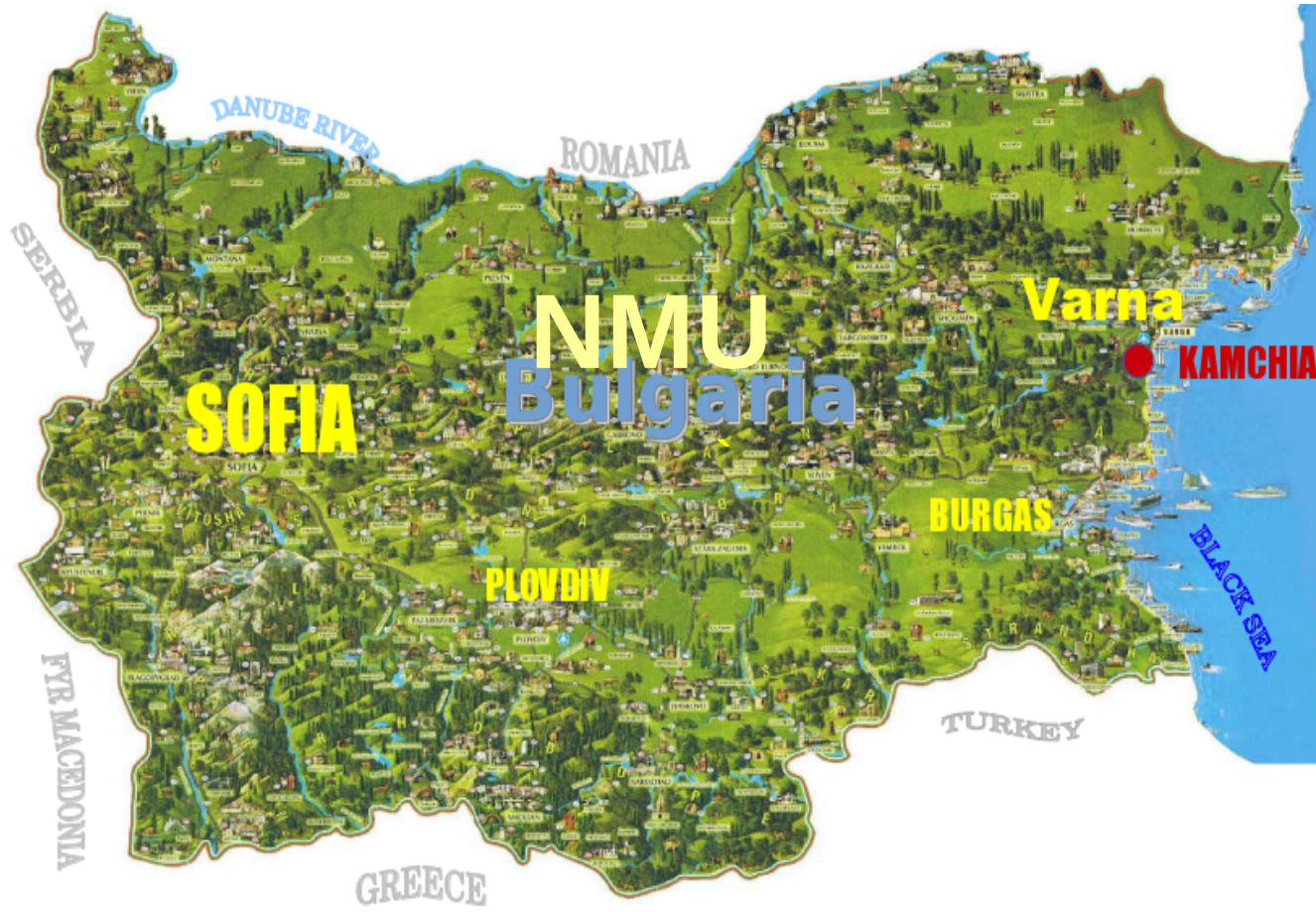
**Sofia University**  
**National Military University**  
**Varna High School of Mathematics**  
**(associate member)**

Technical University of Plovdiv  
Bulgarian Academy of Science

created in 2017  
legal operation by CASTRA





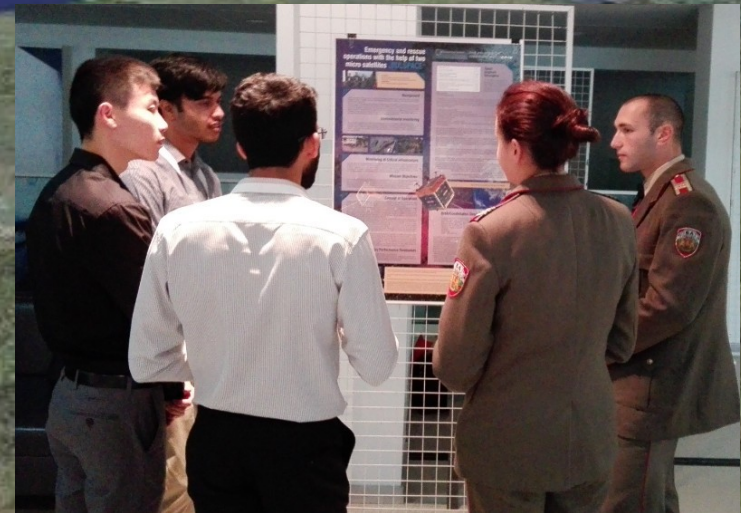




# HEPTA SAT Training MSc.Training



7th ESA Training Course on Radar Remote Sensing



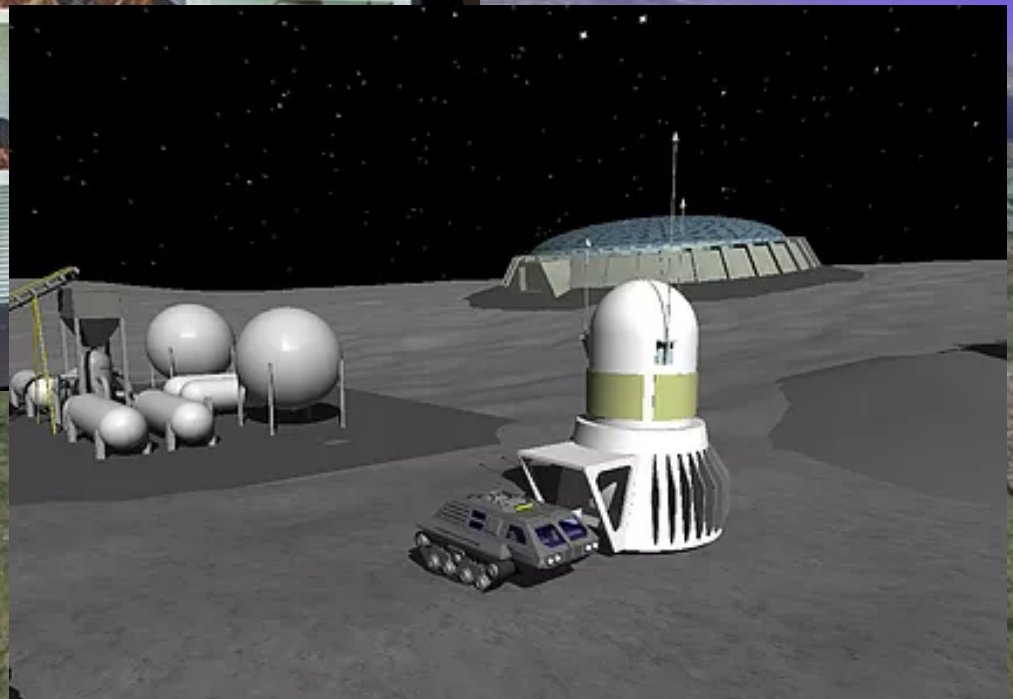


# The Youth for Space Challenge – ODYSSEUS II





# NASA Moon Simulation Exploration Experience





# First Bulgarian contest on space debris mitigation



## Организатор

Зорница Антонова

e-mail: [antonova@ecomax.bg](mailto:antonova@ecomax.bg)

тел. 0899134397

## Координатор

Костадин Левков

e-mail: [kostadin.levkov@gmail.com](mailto:kostadin.levkov@gmail.com)

тел. 0886857335

