***"Intelligent and distributed control of 3 complex autonomous systems integrated into emerging technologies for medical-social personal assistance and servicing of precision flexible manufacturing lines"* – CIDSACTEH - COMPLEX PROJECT CDI - Agreement no.: 78PCCDI / 2018, CODE PROJECT: PN-III-P1-1.2-PCCDI-2017-0290, Domain: New and Emerging Technologies**

Complex project manager: Adrian FILIPESCU

b). Component Project Title 3 (Pr. 3): *"Intelligent control structure with advanced techniques and navigation system based on the performance sensors and video-servoing systems for Complex Autonomous Systems, CAS-PRA (Complex Autonomous Systems – Personal Robotic Assistant) and CAS-MAV (Complex Autonomous Systems – Multidirectional Autonomous Vehicle) integrated into medical and social assistive technologies and servicing precision manufacturing lines (mechatronics lines)"* - 2018-2020.

Component project manager (Pr.3): Daniela-Cristina CERNEGA

Objectives:

- Kinematic and dynamic models of Complex Autonomous Systems, CAS-PRA and CAS-MAV, integrated into medical and social assistive technologies and Servicing Precision Manufacturing Lines (Mechatronics Lines);
- Intelligent and distribuited control structures based on advanced control techniques, of complex autonomous systems, CAS-PRA and CAS-MAV, integrated into assistive and service technologies;
- Navigation systems, based on ultrasounds and laser of complex autonomous systems, CAS-PRA and CAS-MAV;
- Precision positioning systems, based on video-serving, of manipulators that equip complex autonomous systems CAS-PRA and CAS-MAV;
- Laboratory real-time testing oacomplex autonomous systems CAS-PRA and CAS-MAV.

Estimated results:

- Real-time control structure of an assembly/disassembly line with integrated CAS-PRA and CAS-MAV, validated by testing on laboratory manufacturing lines;
- Reports with the results concerning model testing, via simulation of complex autonomous systems, CAS-PRA ans CAS-MAV integrated in medical and social assistive technologies and (Various Scenarios, Case Studies);
- Intelligent control structure, based on advanced techniques of CAS-PRA and CAS-MAV, integrated in medical and social assistive tecnologies and servicing precision flexible manufacturing lines, of assembling/disasembling an processing/ reprocessing (mechatronic lines);
- Navigation structure based on ultrasounds and laser of CAS-PRA ands CAS-MAV;
- Mobile visual servoing located on the manipulators that equip CAS-PRA and CAS-MAV.