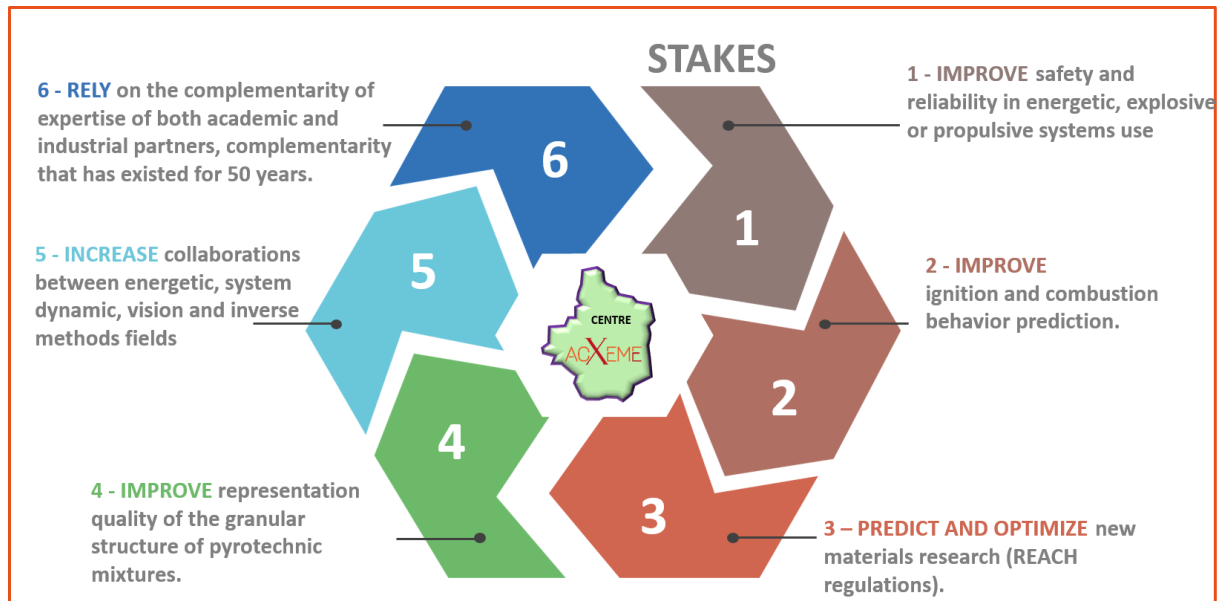


CONTEXT OF AXCEME INDUSTRIAL CHAIR



The industrial chair AXCEME (French acronym for Ignition, Explosion, Environment and Energetic Materials) is a research program selected in June 2019 by the French National Research Agency (ANR). This chair is the result of a national scientific and industrial recognition in this field. Indeed, academic and industrial partners have been working together for a long time in the French Department of Cher, and especially in Bourges. This industrial chair is led by Orleans University and project management will be performed by “Pôle Capteurs et Automatismes”.

This project proposes a significant contribution for the improvement of explosive and propulsive energy systems with solid fuel. Major advances will be proposed on the two following axes: optimization of materials for designed systems and prediction capacity of composition of energetic materials and system design under current and future environmental constraints. Challenges at material, energetic and system levels will be met by a consortium of industrial (MBDA France, Nexter Munitions, ASB Aerospatiale Batteries) and academic (PRISME with ICARE-CNRS Laboratories) researchers.

First ANR industrial chair in the French Region of Centre-Val de Loire: a scientific and economic ambition.

Employment

Bourges, located in central France, is the armament capital since 1870, with aeronautical and terrestrial activities. For Bourges and its bordering territories, defense industry represents about 3500 direct jobs, plus more than 1000 people in subcontracting companies.

Science

Partners of the ACXEME project will characterize and optimize composition and reactivity of several high energy density materials, mainly energetic materials (pyrotechnic compounds) and metal particles. Such characterizations and optimizations will be performed at ignition and combustion levels, but also at heterogeneities disposition level. New materials may therefore be developed to comply with future European regulations concerning health and environment protection.

Training

This chair will contribute to develop local employment by offering a high-level training offer, often vital for industrial partners. It will also contribute to the scientific outreach, to enhance academic careers attractiveness. It will permit during project duration to employ Master students, PhD students and post-doctoral researchers, for a teamwork between industrial and academic partners.

Industrial chair ACXEME has a budget of 2.1 million euros. It is financed equally by ANR and industrial partners and has a duration of 4 years.