



# Unipolarity, Technological Change and Arms Manufacturing: Industrial Alliances in the European Defense Industry

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## **Abstract**

Why do countries cooperate for the production of some weapon systems and not some others? Existing IR theories cannot fully answer these questions. In this thesis, I focus on Europe – the area in the world where armaments cooperation has been pursued more extensively.

Drawing from the existing literature in international relations theory, in management studies and industrial organization, I make two claims. First, the stability of the post-Cold War era has generally given European countries – although to different extents – an incentive to gear their defense policies towards the protection of domestic jobs and the promotion of military export rather than towards capabilities development. Second, in order to achieve these goals, EU countries have strategically cooperated on the production of some specific weapon systems rather than others. By altering the structure of the market, and thus creating winners and losers, technological change can explain this variation. In my dissertation I show that European countries were more likely to pursue cooperation in armaments production when either an exogenous and relatively major technological change made their defense industries less competitive in export markets (architectural change); or when extremely advanced components were necessary to compete in global armament markets (modular innovations). Conversely, European countries were less likely to cooperate when either an industry was characterized by linear improvements (evolutionary change) – and thus cooperation could only harm domestic industry and employment – or when a revolutionary innovation emerged (radical change). In this latter instance, each country had a strong interest in pursuing its own program so to create a domestic industrial base and, eventually, establish the industry's dominant design, thus becoming market leader.

I test my theory on three case studies. Building on industry statistics, specialized publications and structured and unstructured interviews with over 100 senior officials and executive from the biggest European countries' armed forces, defense procurement agencies and defense companies, I have first looked at the Anglo-French cooperation on surface warships. Coherently with my framework, cooperation was difficult on warships' hulls (where technology changed more linearly) and was easier on naval weapon systems (where an architectural

transformation had occurred). Second, I have looked at air-power capabilities: an area where both an architectural and a modular change have taken place. Different export prospects explain the variation we observe in cooperation patterns: EU countries brought to production their Cold War-era combat aircraft designs and, thus, ended up depending on the US for 5th generation jet fighters. Similarly, cooperation was wider in the case of air-to-air and more limited in the case of air-to-ground missiles. Finally, in the case of UAVs, a radical innovation, cooperation was slow and limited as, coherently with my framework, each European country tried to develop its own know-how and eventually become market leader.



**Jury:** Pascal Vennesson (formerly EUI/Rajaratnam School of International Studies) (Supervisor), Andrea Gilli (candidate), Anand Menon (King's College, London), Ulrich Krotz (EUI/RSCAS), and Antonio Missiroli (European Union Institute for Security Studies) (in conference call)