

**Co-ordination in National Technology Policy:**  
**Evidence from the Galileo Project**

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*Abstract*

Policy makers seek to identify an institutional framework that facilitates the commercialization of publicly funded R&D. In the space industry, the formation of such a framework is complicated by certain non-economic factors, such as national security considerations and the fact that numerous sovereign nations are often included in the commercialization process. In this paper, a model is outlined, that incorporates both economic and non-economic factors. The paper then demonstrates the importance of co-ordination in national technology policy to achieve an optimal result. The benefits of co-ordination are illustrated through a case study of the design of a major European public-private partnership (PPP) in the space industry, referred to as Galileo.

The strategic objectives of Galileo are to develop and commercialize high accuracy, space-based navigation assets (e.g., a fully commercial version of the U.S. Global Positioning System or the Russian Glonass). Galileo is a radio-navigation non-military program that relies on ground-controlled satellites to provide users with accurate positioning information. An unusual aspect of this program is that for the first time, the European Commission and the European Space Agency are sharing equity with the European space industry, service providers, and financial institutions. The development phase was scheduled to begin in 2001 and completed by 2007, with commercialization expected to commence in 2008. The project has encountered three major obstacles: concerns from European firms regarding high risk and low profitability, concerns expressed by European public officials regarding inefficient use of public funds, and concerns expressed by U.S. government officials regarding security risk.

These three areas of concern, which have traditionally being treated as separate issues, are shown to be interrelated in the paper. Another unique aspect of the paper is that it models negative security spillovers of 'unilateral' space projects such as Galileo, or space based anti-ballistic missile defense, on the public sector of the other area. The paper shows that trans-Atlantic cooperation at the public policy level is necessary to enable the respective industries to exploit the benefits of cross-border business alliances. This coordination not only reduces the costs of the respective programs, but also address security concerns.