Innovation and job quality in the aeronautic industry: Results from qualitative case studies

Roland Ahlstrand (U. Malmö), Jérôme Gautié (U. Paris 1), Anne Green (U. Warwick), Sally Wright (U. Warwick)

The paper focuses on the interactions between innovations (of all kinds) and job quality (in a wide sense, covering work and employment conditions, including job status, compensation, training and career opportunities) in the aeronautic industry. It draws on empirical evidence – industry survey and company case studies – from France, Sweden and the UK. Aeronautics has introduced important innovations in the past decade. For example, computer assisted devices (from computer aided engineering and design, Model Based Definition (MBD), i.e. the use of 3D drawings, to computer numeric control machines) have impacted the work of both engineers, technicians and operators. The new generation of process innovations (i.e. digitalization) include, among others, the introduction of cobots and robots, and virtual augmented reality devices. Aeronautics is indeed a front runner of the "factory of the future" or "industry 4.0", which may have important consequences in terms of both job quantity and quality – notably in terms of education requirements, competence development, and individual task discretion/autonomy. Organisational innovations have also played an important role, such as the implementation of lean manufacturing and its derivatives, introduced more recently than in the automotive industry, with some specificities. Increasing pressure on all the segments of the supply chain has been witnessed in many firms and their subcontractors, in connection with some of the technical devices mentioned previously, and in a context of increasing competition, and in some cases to important changes in the governance of firms.

But the reverse causality – i.e. from JQ to innovation – is also a key issue. Some firms are innovating by introducing new forms of organisations to improve some dimensions of job quality as a mean to foster the innovation capacity of the firm "from the bottom up", with experiments such as "liberated company". As in other industries, some big companies are trying to emulate the "start-up spirit".