

## ***46ESS-75: GE Civil turbofan engines and technology evolution***

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*General Electric is known as one of the biggest and most famous gas turbine engines manufacturer in the world. Among its multiples subsidiaries, GE Aviation is in charge of producing both Civil and Military engines. Its successful story begins in the early 40s with the development of the first American turbojet engine and leads to the industry supremacy of its engines in their respective thrust class for reliability, efficiency and cost.*

*This paper will provide information about GE most prestigious families of civil engines by retracing the evolution of technology used and the historical context that led to their development. First, we will focus on the most famous civil engine programs, namely as CF6, CF34, GE90, CFM56 and GEnx. Then, we will discuss the future of GE's engine programs through the examples of the LEAP family and GP7200, born respectively from the joint venture between GE & SNECMA and GE & PW (Pratt & Whitney).*

*All the engines will be analysed in chronological order and will be compared with the major engines competitors in order to highlight their strengths and weaknesses. The development of each engine families will be related to the development of the technology associated and the historical context.*