

19. Department of Mechanical, Medical & Aerospace Engineering Engineering support intern with major airline producer in France

I was placed in the company's Customer Services and my job function lies within the Engineering Support unit concerning the Hydro mechanical systems and most precisely for the Landing Gear Systems department. My department is in charge of answering customer queries on Landing Gear Systems for all A300/A310 and A330/A340 fleet.

My activity within the SEE33 department consisted in assisting the Landing Gear Systems Engineers in their daily jobs in investigating system failures, prepare corresponding recommendations for troubleshooting, writing service information letters to be dispatched to customers, which are the different airlines and carry out system or component reliability analysis.

Presentation: HISTORY OF COMPANY

Today this company has over fifty five thousand staff of thirty different nationalities working in its headquarters and subsidiaries. This diversity of cultures and languages has enabled the company to work well with the widest possible range customers, to understand their culture and the needs of their particular market. In addition to people directly employed by the company, some 1500 suppliers in 27 countries provide employment for a workforce of around 100,000 supplying components.

The company was established in 1970 as a French legal construct that allows members to work efficiently on a common group project in a consortium framework, while allowing them to pursue other non-competitive projects independently of the other members.

In June 2000, two firms announced the creation of an integrated company, destined to consolidate company resources and know-how around Europe into a single entity. Today, all the company-related design, engineering and manufacturing assets located in France, Germany, Spain and the United Kingdom have become part of a new company, under the day-to-day control of a single management team. The integration of all its functions enables the company to obtain even greater efficiency through the concentration of purchasing power, faster decision-making and a direct control over costs.

CUSTOMER SERVICES ENGINEERING

As mentioned in the introduction above, my placement was in the Customer Support Engineering. The purpose of the Customer Support Engineering is to ensure that the maintenance of the company aircraft fleet is as effective and cost efficient as possible, leading to the greatest operational reliability achievable. State-of-the-art technical support and a wide range of engineering services are offered by the company to provide operators with the right solution at the right time.

A. PRODUCT SUPPORT ENGINEERING A/C SYSTEM DIRECTORATE- (SEE ORGANIZATION)

This department ensures the after sale service, on following systems:

- Propulsion systems and APU (SEE1)

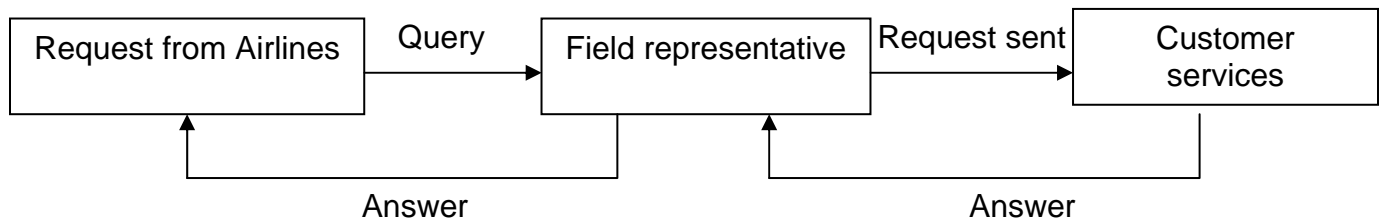
- Fuel and environmental control systems (SEE2)
- Hydromechanical systems (SEE3)
- Avionics systems (SEE4)
- Flight control and electrical systems (SEE5)
- Cabin and cargo systems (SEE6)
- Materials/technologies and training (SEET)
- Structure engineering A300/A310 and A330/A340 (SEE8)
- Structure engineering A320 (SEE9)
- The company technical AOG center called AIRTAC (SEEC)

B. OUTLINE OF PROCESS FLOW

Within the framework of Airworthiness Authorities regulation, in agreement with SEE management policy and procedure, the engineer provides engineering assistance to customers, ensuring timely responses with good quality and with on-site assistance necessary.

The daily action:

Generally, the process flow is as follows:



An airline approaches one of the resident customer support representatives with a request or a question. This question is passed onto the relevant department and group within Engineering Services from whom an answer is expected within the time frame defined by the customer support representative.

The operator's requests are logged in an electronic mail system. Depending on the question, a certain timeframe is allocated. Each question should be answered before the target date. The operator and the local representative set the time frame, but the group has to provide a first reply or acknowledgement within two days to match the quality policy of the company. Actions are launched together with the relevant vendor and design office. If no answer is available before the target date, an interim answer providing a status report on the action is sent to the customer. A new target date is set and agreed by all the people involved in the action.

JOB TASKS IN CUSTOMER SUPPORT

Basic purpose:

- To provide technical assistance to the customer, ensuring timely responses with good quality and with on-site assistance where necessary.
- To monitor in-service events, identify potential impact and launch appropriate corrective action with relevant design organization. To also ensure the required level of follow-up.

- To ensure feedback of in-service experience, maintenance activities and significant issues to management, partner design organization and the vendor.

Main responsibilities:

- Answer all technical queries raised by the customer, within the defined time scale.
- Analyse all in-service events to identify potential impacts (including airworthiness, reliability, cost, etc.), launch and coordinate all actions or product improvement with the relevant partner design organization and the vendor.
- Provide customers with relevant technical information or tools using all customer services appropriate means or media to systems operation.
- Provide customer with technical assistance for troubleshooting.
- Provide technical AOG (Aircraft on Ground) service.
- Provide engineering support to other customer service departments.
- Ensure transfer of in-service experience and maintenance activities to the management, to other customer service division and design organization including partners and vendors.
- Attend technical meetings with customer engineering and maintenance organization.

REFLECTIONS

A. PROFESSIONAL TRAINING VIEWS

My placement year has been a very successful one and a great learning process for me. It has been my first ever engineering job and in a very big worldwide company whereby I was motivated all the way through that year to do very well and achieve success and above all keep my employers happy. Personally, I do not regret having chosen the sandwich course and I do believe it is highly important for all engineering students to make the most of this option given to us and eventually choose to undertake a placement year. It is a real opportunity to discover the outside world and situate us in it.

My year at the company has been a big learning process and where I was supported by very nice people who made my stay there even more joyful. The people in my office have always been there for me and they made sure I was enjoying every bit of my year with them. They would regularly take me out for lunch or dinner or we would have a meal in office whereby everyone would bring something. We were all very well bonded together generating a wonderful atmosphere to work in the team.

B. PERSONAL DEVELOPMENT

The placement year has been a continuous learning curve whereby I kept improving my knowledge and also developed necessary skills in order to achieve success in my job. Besides all the knowledge and experience acquired, I also developed some skills and improved on the existing ones as described below:

- **COMMUNICATION:**

Communication has always been an important aspect from Day 1. Being in a team of 9 members, it was highly essential that there is a good level of communication within the group in order to achieve our targets and get all the work done successfully. And the nature of our job is that we are in constant contact with each other and also with people from other departments or our partners in the UK, France or sub-contractors. Furthermore since I am French speaking as well, it made it easier to settle in the group and to be able to participate actively in discussions or even when cracking jokes and having a fun time. Good ability to

communicate with the team and also customers, and the ability to give a complete and concise account of a problem or solution; both orally and written.

- **MANAGEMENT:**

Management is very essential in any job activity. It includes time managing, organisation of the work schedule, planning, prioritise etc. It is not easy to carry out several tasks at the same time without any planning and also depending on the urgency of the issues. In fact, many of our tasks have a got a target time to respond to, some can take weeks while others simply a day or two. Therefore, it required a good level of management from me in order to be able to progress accordingly with my project and at the same time maintain my schedule for the daily activities, which include reporting to airlines and coordinating the Repair Approval procedure. I had to share my time accordingly between the amounts of work I had, the urgency of the issues and meetings.

- **TEAMWORK:**

Effective teamwork was key to achieving success and meet targets. Our team consisted of 9 members and everyone had a particular area of work specialised in. However depending on the urgency of the issues and the amount of work, we do share the workload between us and help each other. Every now and then, we will be having discussions on hot topics or share an interesting point with the group. Further, we would regularly have social events together and this reflects the excellent bonding we have in the team.

- **LEADERSHIP:**

Leadership was a skill that I improved massively throughout my year. In fact slowly I have been gaining more and more leadership attributes. I was trusted with responsibilities from the team whereby I had to make sure that I do my job as best as I could. Being in charge of the RAS procedure meant that I was the main focal point in the whole process and monitored the progress of the repairs, managing the target dates and eventually keeping all parties concerned aware of the latest progress. Further having been assigned the LDG project, I had to make sure that I coordinate every step of it accordingly by organising meetings to review the whole progress of it with my mentor and manager and sometimes the whole team.

Overall gains:

As my placement went on, I became more and more mature and took on more responsibilities by myself. I had more belief and confidence in myself and this has been induced in me by my manager and the team members who always encouraged me in everything and who supported me all way through.

CAREER ASPIRATIONS:

Following my one-year placement with the company in the Landing Gear Systems group, I did a 2-months training experience with another firm in the UK. This company is the world leader in the design, development, manufacture and support of landing gear systems. Having spent a year providing technical support and assistance to airlines on Landing Gear issues, I wanted to gain the experience of how actually they were manufactured, the different mechanisms etc. In fact through these 2 months, I got to learn about the Landing Gears in details, see the different

manufacturing processes in the workshop, the fatigue/stress tests and the assembly of all those parts. And I do hope to secure a work experience with an airline in the engineering department for next summer. It will be really interesting to get one as I would get to look at the maintenance or servicing of the aircraft while back at my time with the company I used to be giving these maintenance procedures or troubleshoot to the airlines and assist the engineers on site technically.