Opening Keynote
by the Director General of Hermes - Air Transport Organisation to the
9th SESAR Innovation Days
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It is my great pleasure to welcome you today at the 9th SESAR Innovation Days.

I'd like to provide Hermes perspectives on *"Education and Performance in Aviation: Realizing and Sustaining Benefits"* the theme of this year Hermes recommendations.

1. Introduction

First of all air traffic is expected to double over the next twenty years. This will inevitably create new challenges in terms of equipment and infrastructure, but also in terms of hiring and developing personnel. In this context, education and training in the sector should not only be seen as a cost, but as the roadmap to competitiveness and success in the marketplace. Putting people first is of essence in an increasingly automated sector and appropriate policies should be designed to address the various knowledge and skills gaps. Moreover, it is important to reach the appropriate scale of sector-educated and trained people to realise and sustain benefits for all involved stakeholders. Addressing, therefore, the issue of education and training in the sector becomes of major importance from both a quantitative and qualitative perspective.

This year Hermes prepared a report that discuss education and training as an investment, outline challenges faced by the aviation industry in recruiting and retaining personnel, and detail actions that may be undertaken by the industry in improving its training and educational strategy.

2. Education and Training in Aviation as an Investment

In this context, it is useful to consider education and training in aviation as an investment based on three major factors, namely cost, return and risk.

To the individual seeking training and development, the cost has two major components; that is, the monetary aspect in terms of tuition fees and the time dimension related to the time spent on being trained. Returns refer to the salary, career progression and non-pecuniary benefits that may be received from an aviation career. Risks refer to the possibility of not gaining employment after having received the education and training. There are also costs, benefits and risks to the aviation organisation. The organisation may incur costs either directly through in-house training or by subsidising training at partner or third-party organisations. Benefits include improved performance from trained personnel and increased retention of personnel. Risks include the possibility of trained personnel leaving the organisation, perhaps even to competitors.

With the above in mind, if education and training in aviation is to progress and thrive in the future, the following should be seriously considered. First, who should bear the cost of training and education? Should the cost be borne by the trainee, by the aviation service provider or even by the government?

Second, the aviation sector may not be as appealing to new recruits, as was the case in the past. Many people in the Generation Y and Generation Z age groups may be attracted by firms perceived to be operating in more dynamic industries, such as, start-ups in the IT sector, characterised by potentially very large returns and the excitement of working in "cutting-edge" positions.

Finally, given the rapid changes in technology, risks in aviation education and training may be rising. Labor in this industry may be replaced by technology, as key positions, such as air traffic control, are transformed due to technology.

3. Challenges to Meet

Given the above discussion, the following challenges emerge with respect to education and training in the aviation industry:

a) *Meeting the needs of a growing industry*: The aviation industry is projected to continue to grow over the upcoming years, with growth faster in some areas of the world, such as Asia-Pacific and Africa. This growth will generate increasing needs for personnel in all areas of the aviation sector.

b) *Competing for personnel*: Aviation must compete with other industries for available personnel. As populations age in many areas of the world, there are fewer "young people" as a proportion of the population. Moreover, much of the aviation industry has traditionally not been as profitable or provided the job security as other industry sectors. Based on pay, personal growth and development, and job security, the industry may find it difficult to compete for personnel with other more attractive and higher-paying industries.

c) *Retention*:   Related to the challenges of hiring new personnel, is the problem of retaining personnel. Given the needs for personal growth, the industry will have to develop in-house training programs and partner with educational providers in order to facilitate this growth.

d) *Providing Training Opportunities*: The aviation industry, itself, cannot fully meet its training needs. Therefore, it needs to partner with educational institutions and other training providers. Traditional higher educational institutions generally do not have the expertise needed to provide this type of training.

e) *Filling the Gender Gap and Addressing Diversity*: In a liberalised and commercialised environment, knowledge of economics, management, marketing and soft skills become essential to effectively running a business. The industry must look to recruit individuals currently underrepresented in aviation. In particular, recruiting more women will be required, since the percentage of women in the industry is relatively low, compared to the percentage of women in the workforce, in general.

f) *Automation and Artificial Intelligence:* Aviation education should be pursued as a STEM field, focusing on helping recruits and current employees discover science and technology fundamentals. Expected developments in technology may have important implications for aviation jobs in the future and the training of personnel to undertake these positions.

4. Recommendations

Hermes based on the above challenges made the following recommendations.

First, it is important for the industry to gain comprehensive situational awareness of its status and future needs. This can be gained through a series of studies and needs-analyses that focus on current industry standing and future prospects. These will include but not be limited to: salary levels, levels of technology penetration, employee satisfaction and mobility. Specific policies and recommendations can be more effectively drawn and produce tangible and systematic results in the long run if they are based on comprehensive data gathered through these studies. International organisations will be of importance in assisting with data gathering and helping to shape the questions addressed by these studies.

Second, effective and systematic industry-education partnerships must be developed at national, regional and even global levels that will provide a framework for addressing future educational and training priorities of the industry. A framework such as the above-mentioned can provide for a flexible and sustainable means to address future industry needs.

Third, it is important that the aviation industry examine best practices found in other industry settings in regard to effective training and education regimes, industry-education partnerships, as well as employee satisfaction and retention. Otherwise, the aviation industry may be outcompeted for the best talent by industries perceived as providing better opportunities for employment and advancement.

And finally **fourth** it is important to ensure that current aviation employees can be usefully re-deployed or re-trained. The acquisition of educational skills should prove flexible enough to accommodate technological disruptions in a service sector such as aviation. At the same time, the aviation industry must hire recruits with the soft skills, such as customer service, that are so important in the industry. Moreover, education and training in aviation should address gender imbalances.

Aviation industry stakeholders should become more proactive in partnering with educational institutions, both traditional and more specialised. Effective industry education partnerships can be built in two ways: (a) Through direct partnerships between aviation businesses/organisations and academic institutions/training centres. These partnerships can focus on specific skills that need to be developed in the industry. (b) Through networks that include government, academia and industry that can address skills required by the aviation industry, as well as many other industries.

May I please wish you all a very productive event.

Thank you.