< ArrowDynamics >

Pilots are flying in increasingly **challenging environments**, with high density air traffic, over more and more built-up areas, with inhabitants who understandably resent disturbance.

The growing number of planes, both for commercial and leisure purposes, creates new dangers, requiring **intense concentration** on the part of pilots. The airport approach is a critical moment for all pilots, but particularly for trainees.

Furthermore, this overhead traffic brings noise and environmental pollution, and thus frequent complaints from **local people**. These new and pressing issues are being studied by local committees, anxious for quick efficient solutions.

In this context, initiatives are being undertaken, such as the **AeroSaclay contest,** engineering students have been given the task of **developing technologies** to find **innovative solutions**.

To **reduce** the **impact** of general aviation on the **environment** and to comply with **airspace regulation**, pilots need to follow **precise paths**.

Our product, **ArrowDynamics**, is the **ideal solution** that provides **directional help** thanks to a device in your **cockpit**.

Thanks to embedded electronics and GPS technology, our system can guide pilots through the desired pattern with a 30-meter precision.

Our solution is easily tuneable to suit both pilot and air traffic controller needs in all **airports in the world**.

Our system performs various functions :

We are designing a portable solution to equip an aircraft that navigates in a complex environment. However we fully understand that you may not need a mounted solution in all airplanes. That is why we have developed an **android app** that keeps the main features of our **solution**.

We decided to implement a **debriefing option** for our mounted solution. It allows pilots to monitor their progress and their ability to **respect the traffic pattern**.
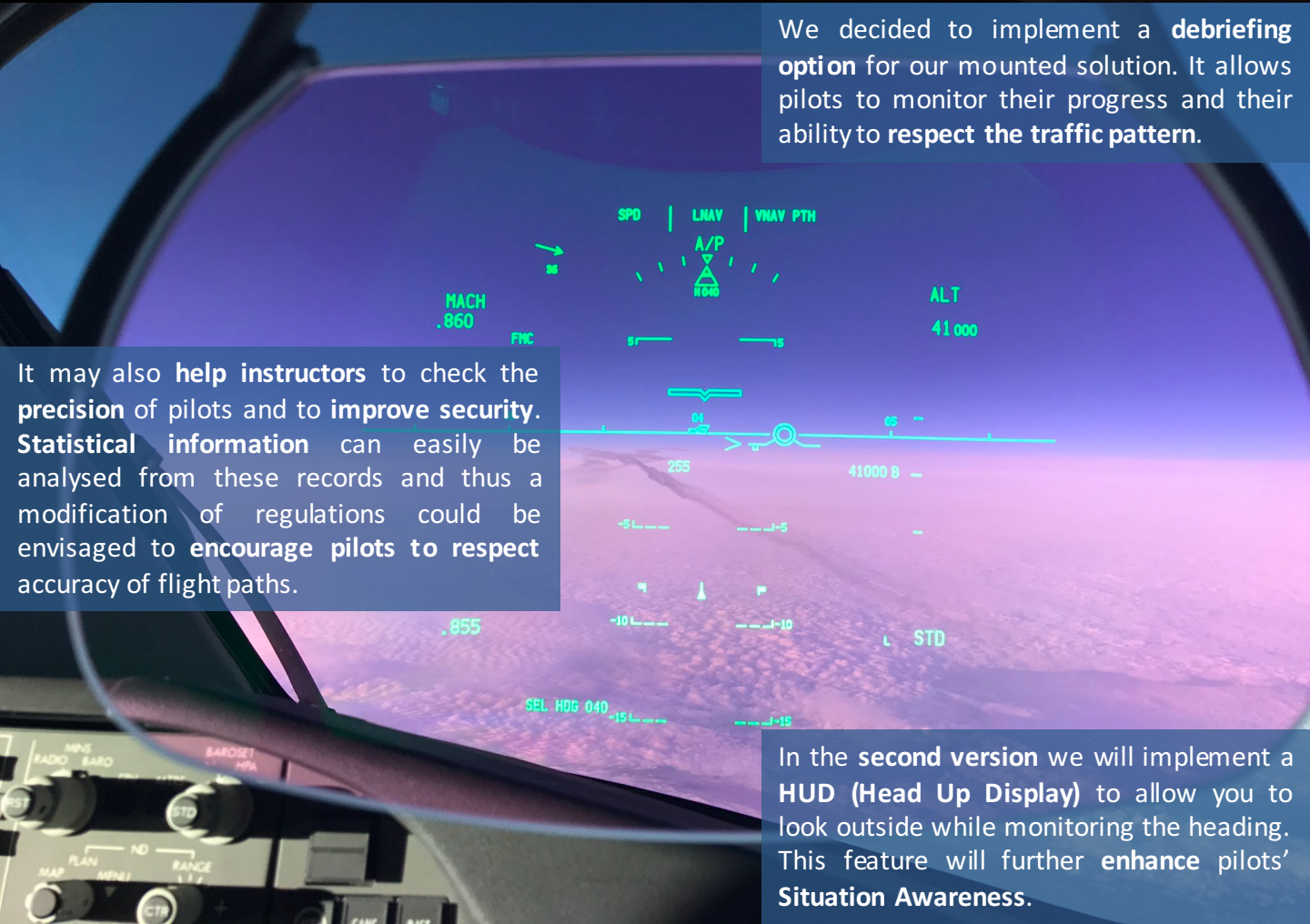
It may also **help instructors** to check the **precision** of pilots and to **improve security**. **Statistical information** can easily be analysed from these records and thus a modification of regulations could be envisaged to **encourage pilots to respect** accuracy of flight paths.

In the **second version** we will implement a **HUD (Head Up Display)** to allow you to look outside while monitoring the heading. This feature will further **enhance** pilots' **Situation Awareness**.

THE DYNAMIC TEAM

Paul FAUGERAS

I am a drone builder and pilot, a talented coder and a passionate electronician. I have always been curious about everything that flies, love understanding how things work, and enjoy developing my own projects, revolving around small electronics and big ideas.

1st year Student at CentraleSupelec

Axel HWANG

I am passionate about aircraft modeling. At CentraleSupélec, I've learned many things about engineering systems and modeling. I love computer science and the opportunity it gives for innovation in order to create new technologies. I believe our project is an opportunity to improve the comfort of both new and experienced pilots.

1st year Student at CentraleSupelec

Ugo MARTINEZ

As an SEP Pilot and glider instructor, I have a deep knowledge of the complexity of flying and the challenges associated with learning. With many years of practice, I enjoy sharing my experiences and giving advice, taking the project to new heights.

2nd year Student at CentraleSupelec

Antoine ROUSSET

I have always been passionate about aeronautics, and this year I took the opportunity to train for my PPL (Private Pilot Licence). Learning such new skills is very exciting, and at the same time I can clearly comprehend the issues which are experienced daily by pilots, such as precise navigation and integration into airport circuits.

2nd year Student at CentraleSupelec

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