



## COATINGS WITH HYDROPHOBIC AND/OR OMNIPHOBIC PROPERTIES AGAINST INSECT CONTAMINATION

The aircraft industry has long been concerned with the **increase of drag** impacting directly the **fuel consumption** of airplanes. Different researches have shown that the insect sticking causes 3-D disturbances in the laminar flow. To avoid this, the use of **coatings** to mitigate the insect contamination has started to show promising results. However, some critical issues remain unsolved, such as the lack of durability .



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The **objectives** of the project CHOPIN are :

the **development of highly durable hydrophobic coatings** which can be applied to micro-perforated surfaces typically used for drag reduction and the **validation** of the technology and the coating process by using tests to clearly **assess the mitigation of insect contamination under realistic conditions**.

Different technologies are being considered in the project to obtain hydrophobic surfaces : **wet-chemistry deposition** and **dry technologies** (plasma and spray).

The application process needs to keep the holes and the efficiency of the **HLFC leading edges**.

The insect contamination and cleaning behaviour of the best coatings will be demonstrated during **wind tunnel and field tests** under realistic conditions. Field tests will be performed by **large drones**, which will allow the evaluation of insect impact and contamination of typical A/C leading edges during drone take-off, cruise and landing conditions.



**PROJECT START DATE** : March 1st 2018  
**PROJECT END DATE** : February 28th 2021

**DURATION** : 36 months

**TOTAL COST** : EUR 1 529 893,75  
**EU GRANT** : EUR 1 499 268,75

**COORDINATOR** : MATERIA NOVA

**TOPIC MANAGER** : AIRBUS

[www.chopin-project.eu](http://www.chopin-project.eu)

5 PARTNERS FROM 4 DIFFERENT COUNTRIES

