FEDERATION AERONAUTIQUE INTERNATIONALE

NOMINATION FORM

THE ANTONOV DIPLOMA

(for technical innovation(s))

From NAC: Germany _____ Date: 30th of October 2020_____

Address: Deutscher Aero Club e. V.
Bundesgeschäftsstelle
Generalsekretariat
Herm.-Blenk-Str. 28 Tel: 0531 23540-0
38108 Braunschweig

Country: Germany _____

(Only one person from a country may be nominated annually by that candidate's National Airsport Control.)

Name of Nominee: Karl-Heinz Helling _____

Address: Hermann – Löns - Str. 10a _____

D-01328 Dresden_____

_____

Email address: ekuhfahl@web.de _____

DESCRIPTION OF TECHNICAL INNOVATION(S) - Please Print

Karl-Heinz Helling has developed a lifting leaf drive over 20 years of work. He was able to realize Otto Lilienthal's dream of the technical implementation of bird flight. In contrast to the flight of a bird with its wing articulation on the shoulder, he found the straight and rigid wing moving up and down on a straight line as a more effective drive.
The advantage becomes clear when the propulsion of an aircraft is scaled to the air column accelerated by the drive - the parallel impact captures a cross-section of the accelerated air column that is 10 times larger than the propeller circle. In the successfully tested flight model HE209, on-board measurements showed that the propulsion efficiency of over 90% exceeds that of the propeller by a factor of 2. For example, when used in electrically powered ultralight aircraft (UL's) and motor gliders touring, this would double the range compared to propeller-driven aircraft.

.....

.....

.....

.....

.....

NAC Signature: _____

President or Secretary General of nominating FAI National Airsport Control

(must be submitted to the FAI Office by November 15)

30.10.2020/La

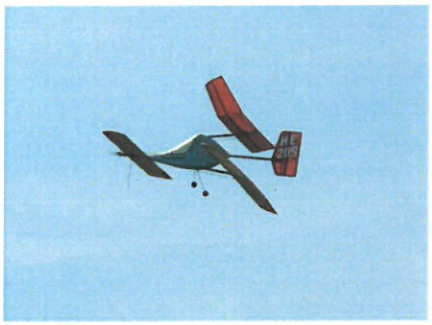
FAI-Award **THE ANTONOV DIPLOMA**

for

Karl-Heinz Helling, Dresden-Rossendorf, Germany

Karl-Heinz Helling has developed a lifting leaf drive over 20 years of work. He was able to realize Otto Lilienthal's dream of the technical implementation of bird flight. In contrast to the flight of a bird with its wing articulation on the shoulder, he found the straight and rigid wing moving up and down on a straight line as a more effective drive.
The advantage becomes clear when the propulsion of an aircraft is scaled to the air column accelerated by the drive - the parallel impact captures a cross-section of the accelerated air column that is 10 times larger than the propeller circle. In the successfully tested flight model HE209, on-board measurements showed that the propulsion efficiency of over 90% exceeds that of the propeller by a factor of 2. For example, when used in electrically powered ultralight aircraft (UL's) and motor gliders touring, this would double the range compared to propeller-driven aircraft.

P1110482mod.jpg


P1110326.jpg

Model during flight: http://www.mfc-rossendorf.de/fileadmin/user_upload/Projekt/Hubfluegel/Projekt/SchlagfluegelProjekt.htm > Videos > Demonstrationsflug mit Handstart bei 5Hz

Note: Because of the large stroke amplitude, the starting process must be carried out with a propeller. After reaching the safety altitude, it switches to flapping flight.

Hans Langenhagen
Modellflugclub Rossendorf e.V.