FAI- CIACA

Commission Internationale des Aeronefs de Construction Amateur

Experimental and Amateur Built Commission

110th General Conference

Bali - Indonesia

Mayor Contents

∞CIACA Worldwide
∞Experimental vs. >100 NAC's
∞New Technologies and new Power Sources
∞FAI CIACA Records, Competitions and SC's
∞Awards of CIACA
∞Youth educational programms

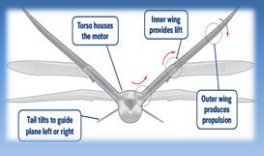
NAC,s >100 vs. CIACA <30

New Technologies and new Power Sources

∞Human powered take-off/Hang Glider
∞Electric Experimental Aircraft
∞Solar - Powerline
- ‡ New Batteries
- ‡ Hydrogene (HY4)

∞ X - Competitions and Records
> Ecology

Human Powered New Materials



∞Many records are achieved every year

Solar Impulse SC13 –World Surround

Rule by CIACA – Observers.

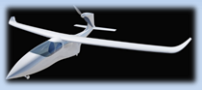



The mission is completed and we are looking for new projects.
Congratulations to Bertrand Piccard and André Borschberg!

Electric - Advantages:

- ∞ high efficiency factor of 95%
- ∞ light weight (20-30 kg)
- ∞ low emissions (noise, CO2, NOx etc.)
- ∞ low vibrations
- ∞ no power loss with increasing altitude
- ∞ longer maintenance intervals

Smartflyer



- ∞ Old Engines with Carburants: ☹
- ∞ low efficiency factor of ~35%
- ∞ heavy weight
- ∞ high vibrations
- ∞ high noise level

Electric Hybrid - Smartflyer

Electric Experimental Aerobatic Aircraft #1

Silence Aircraft Twister

First electric Aircraft performing aerobatics in Europe

Weight engine	13kg
Weight cell	140kg
Weight batteries	160kg
Never exceed speed	300km/h

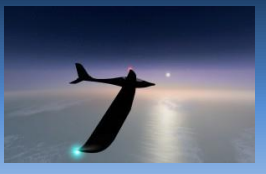
Many Records attempts - Competitions following as well

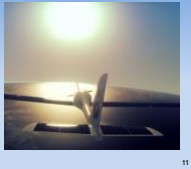
Evolaris –Votec
Aerobatic Experimental Aircraft

technical data:

•wing span	6,30m
•length:	6.00m
•wing area:	7.32m2
•empty weight:	440kg
•MTOW:	680kg
•roll rate:	about 440°/sec
•g-load:	+/-10g
•power:	147-162kW/200-220PS
•Stall speed:	65mph
•Speed up to:	270mph

Solar Stratos - Solar Cells





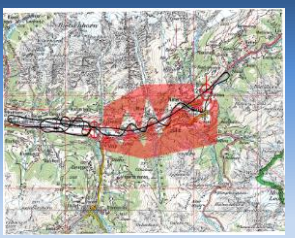
HY4 - Hydrogene

∞ Endlich flügge geworden! Mit der HY4 des Deutschen Zentrums für Luft- und Raumfahrt (DLR) entstehen keinerlei Abgaspartikel und kein CO2, wenn die HY4 fliegt.

Awards and Competitions of CIACA

- ∞Competitions at the Fly-Ins all over the World!
- ∞New Technologies used
- ∞Best built Aircraft + others
- ∞Phoenix + Henri Mignet Diplomas

GPS based Precision Flights



- ∞ virtual parcour
- ∞ GPS based Precision Flight and –Landing competition

Raron FlyIn May 2016

Langenthal August 2016

Phoenix Diploma

∞ **Phoenix Diploma**

∞ 1 nomination : Philip Cozens – Royal Aero Club (UK)

Phoenix Group Diploma

∞ **Phoenix Group Diploma**
1 nomination : David & Rick Bremner and Theo Willford
Royal Aero Club (UK)

Building Competitions

Gyrocopters are, similar to helicopters, a very attractive Aircraft

This Magni-Copter has been built within 4 days at the World Air Games 2015 in Dubai

9. Ciaca Educational and Social Initiatives

∞Children building Aircraft at:

- ǂ World Air Games, Dubai
- ǂ On many national Experimental Meetings

Date and place of next Annual General Meeting

∞FAI CIACA 42th AGM
is planned for AERO 2017
Friedrichshafen

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Experimental Volumes

Experimental -	Aircraft	Hardware	Manpower	Total CH
cost per unit (USD)		50'000	125'000	175'000
Europe	12'000	600'000'000	1'500'000'000	2'100'000'000
Worldwide	70'000	3'500'000'000	8'750'000'000	12'250'000'000
New built	50'0	2'50 0'00 0'00	6'25 0'00 0'00	8'750 '000'

Experimental Aircraft

Place	Cost	35% = Hardware
$ / unit	1	50'000
Europe	12'000	600'000'000
Worldwide	70'000	3'500'000'000
New AC p.a.	50'000	2'500'000'000
Hours / Project	2'500	time excluded