Coupled - Engine Power Unit

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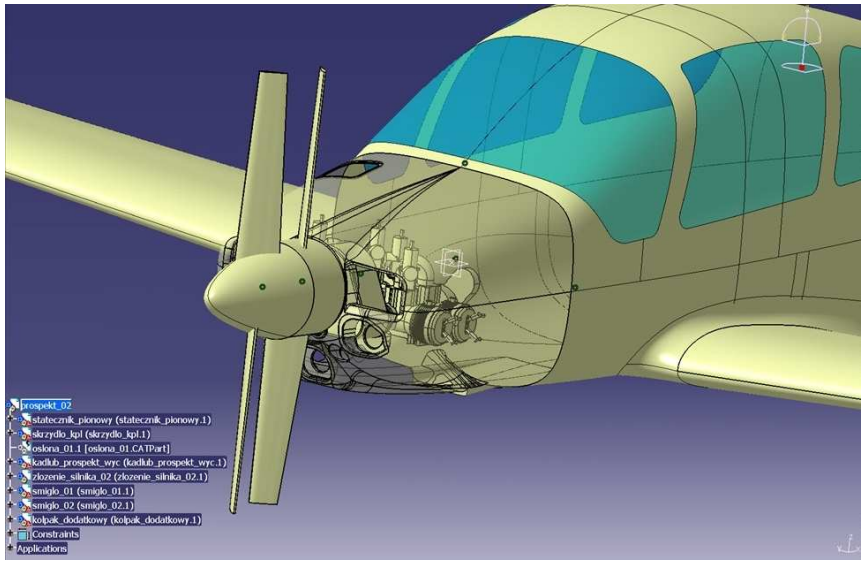
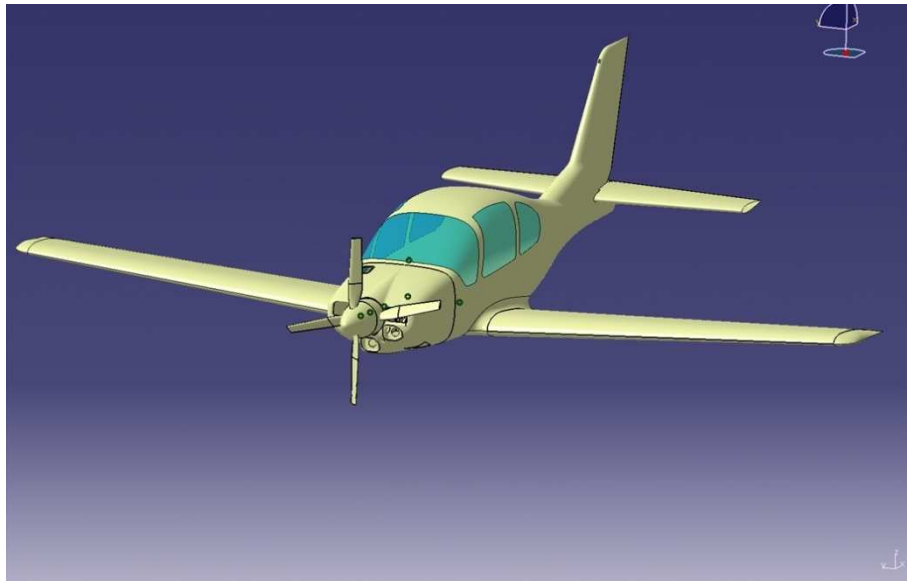
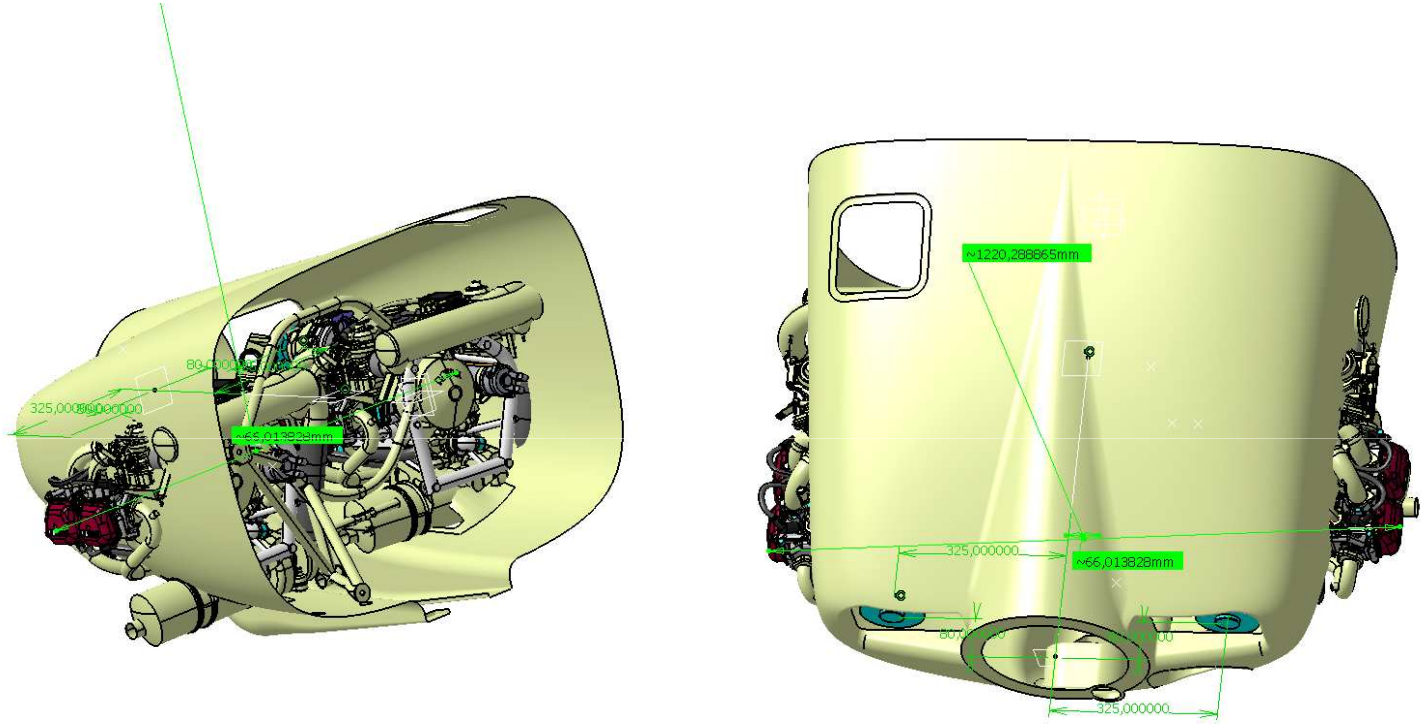
The idea





The Coupled Engine Power Unit (CEPU) idea could be proposition for the next generation power pack for future small-size GA aircraft.
It is an alternative advanced propulsion.



Preliminary analysis of CEPU power system configuration on the I-23 plane – Two Rotax 914F engines (2 x 115 HP), compared to the shield of actual single engine (Lycoming 360)

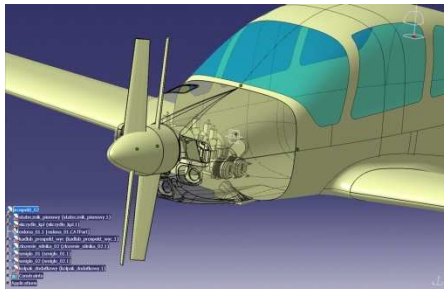
The CEPU idea allows to:

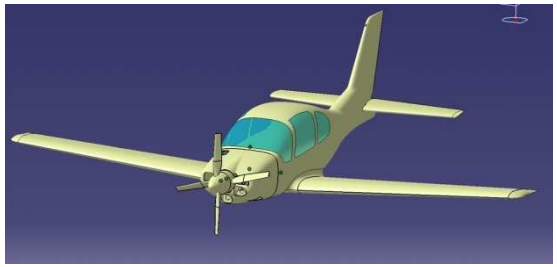
- build twin engine aircraft with single engine mount,
- security (unit of two engines),
- gyroscope and torque moments are zeroed,
- vibration level is reduced,
- aerodynamic drag of aircraft is reduced.

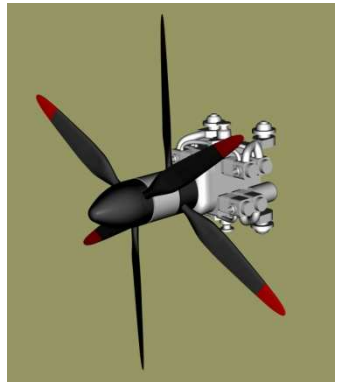
Source of Idea …

Engine Powered Parachute Wing PARAFAN

The patented power unit consisted of the KFM piston engine and two counter-rotating over-ducted propellers. Two counter-rotating propellers eliminate reaction and gyroscopes moments easing control of the machine.







Classic: single or two engines

Today

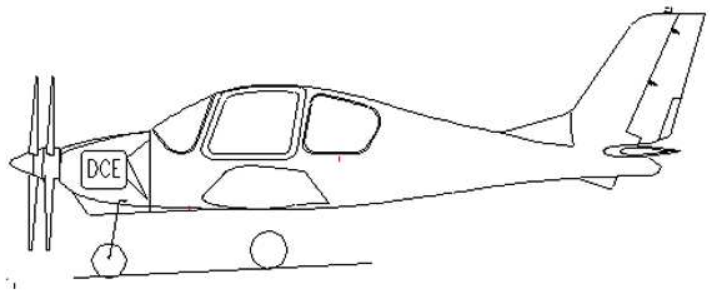
Coupled - Engine Power Unit

For 3 - 6 years

Compact Piston or Electric Engine

Future

Future applications of CEPU idea



Patent application

A1 (21) 333485 (22) 1999 06 01 7(51) F02B 73/00

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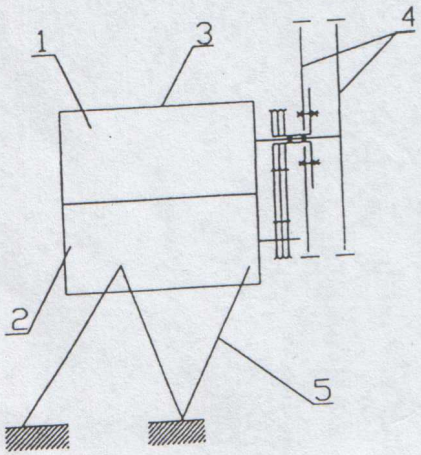
(54) **Silnik zespolony**

(57) Silnik zespolony stanowią dwa lub więcej silników (1, 2), korzystnie umieszczonych w jednym korpusie (3), korzystnie mocowany w jednym układzie mocowania (5) i korzystnie wyposażony w jeden lub kilka układów zasilania i wyposażenia, stanowiących korzystnie, każdy z osobna lub razem, napęd kół, śmigieł (4) lub innych układów.

(1 zastrzeżenie)



Objectives:

- Coupled Piston Engines Unit for very small-size GA aircraft

Description of work/Technical approach:

- Design and economic analysis CPEU idea for very small-size GA aircraft

Deliverables:

- Evaluation of the CPEU idea for very small-size GA aircraft

Expected results:

- high safety,
- the level of vibration is reduced,
- two engines built-in in aircraft with the single engine mount,
- gyroscope and torque moments are zeroed,
- the aerodynamic drag is reduced’

THANK YOU FOR YOUR ATTENTION

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