



PROJECT RESEARCH AREAS

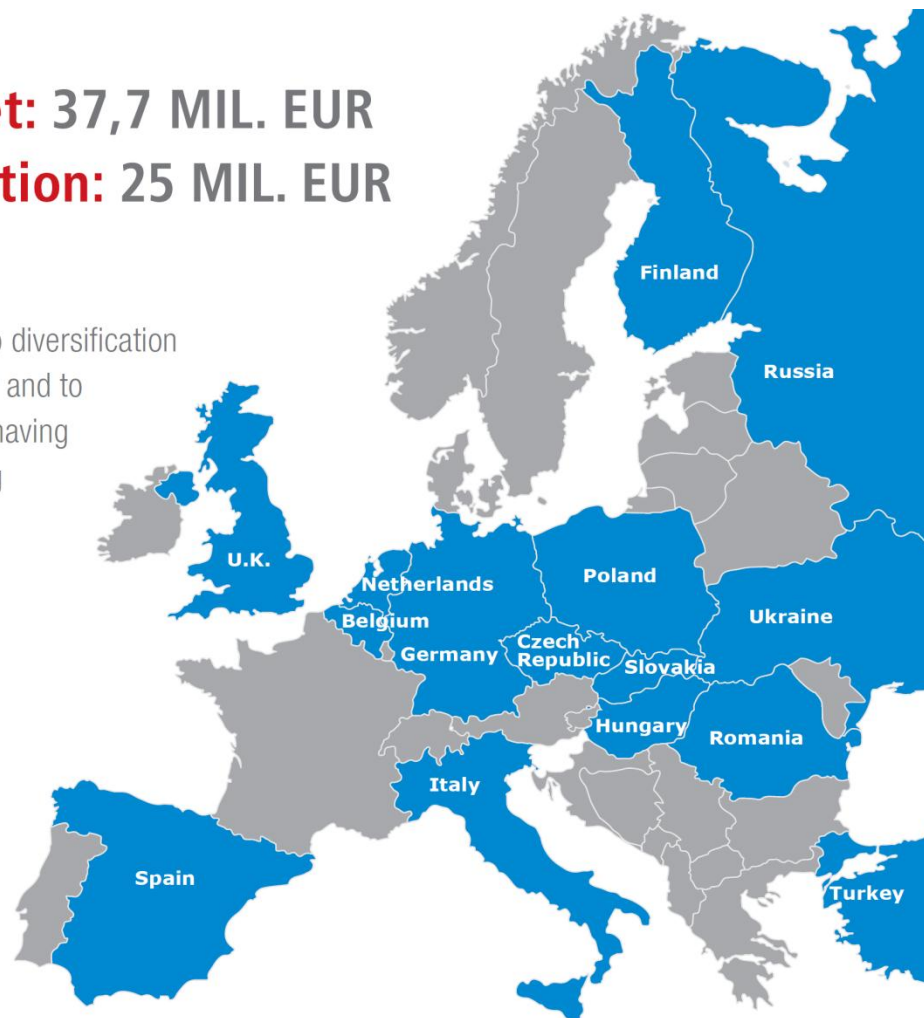
- New engine components and technical solutions for efficient aircraft operation
- New technologies for lean manufacture of critical engine components
- New affordable solutions for electronic engine control and engine health monitoring
- Complex design methodologies for turboprop/turboshaft engines installation

PROJECT OBJECTIVES

- Availability and affordability of modern gas turbine engines for general aviation
- Provision of technologies for reduction of direct operating costs (DOCs) by 10-14%
- Pilot workload reduction and increased safety of small aircraft
- Environmental aspects - rational use of fossil fuels and emission reduction

Total budget: 37,7 MIL. EUR
EC contribution: 25 MIL. EUR

ESPOSA contributes to diversification of EU aviation industry and to regional employment having 21% of the EC funding allocated to SMEs (10 participants)



PROJECT CONSORTIUM
39 participants, 15 countries

» **ENGINE MANUFACTURERS**

PBS VELKA BITES (Coordinator), SE IVCHENKO-PROGRESS, AVIO, MOTOR SICH JSC, WSK PZL-RZESZOW

» **ENGINE SYSTEMS AND ENGINEERING**

HONEYWELL INTERNATIONAL, TEI, UNIS, ZOLLERN, ATARD, MERL, SYSGO, JIHOSTROJ

» **AIRCRAFT MANUFACTURERS**

MARGANSKI & MYSLOWSKI ZAKLADY LOTNICZE, PIAGGIO AERO, GROB AIRCRAFT, EVEKTOR, WINNER HELICO

» **RESEARCH ESTABLISHMENTS**

TECNALIA, CIRA, ILOT, VZLU, CENAERO, INCAS, NLR, CIAM, COMOTI, VTT, FRAUNHOFER IPT

» **UNIVERSITIES**

TUD (DELFT), TUM (MUNICH), PW (WARSAW), VUT (BRNO), BME (BUDAPEST), TUK (KOSICE), TOBB ETU (ANKARA), PRZ (RZESZOW), UNIPA (PADOVA), ULB (BRUSSELS)

FORESEEN APPLICATIONS

Small regional turboprop aircraft, light helicopters, transport utility aircraft, small commuter aircraft and unmanned aircraft systems for civil use



160-250 kW
(~ 2-5 seats)

Turboprop
Turboshaft



Baseline Engine 1
(160-180 kW)

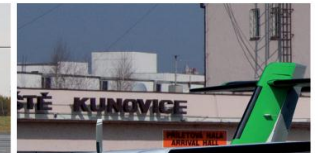


300-550 kW
(~ 5-9 seats)

Turboprop
Turboshaft

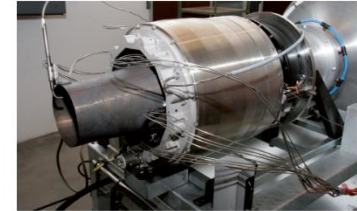
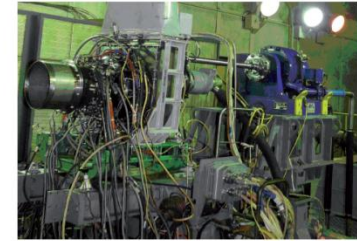


Baseline Engine 2
(400-470 kW)



VALIDATION LEVELS

- Validation on component level - dedicated test benches
- Validation on engine level - integration of engine components and engines systems and their validation on engine ground test benches
- Validation and demonstration on aircraft level - validation of engine installation methodologies and in-flight demonstrations



Test benches



ILOT: I23 - tractor single engine a/c



M-M: Orka - pusher twin-engine a/c



Winner Helico: single engine light helicopter



CONTACTS

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www.esposa-project.eu

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