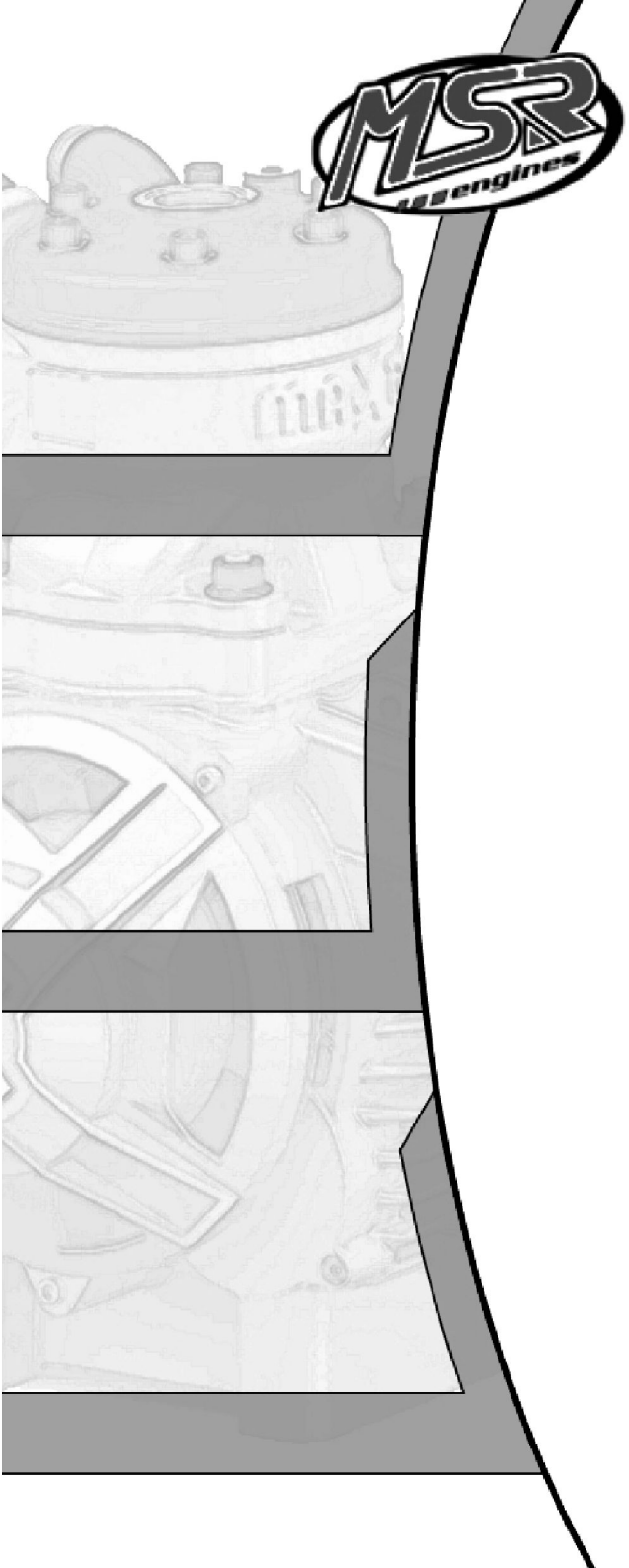


MSR Engines s.r.o.

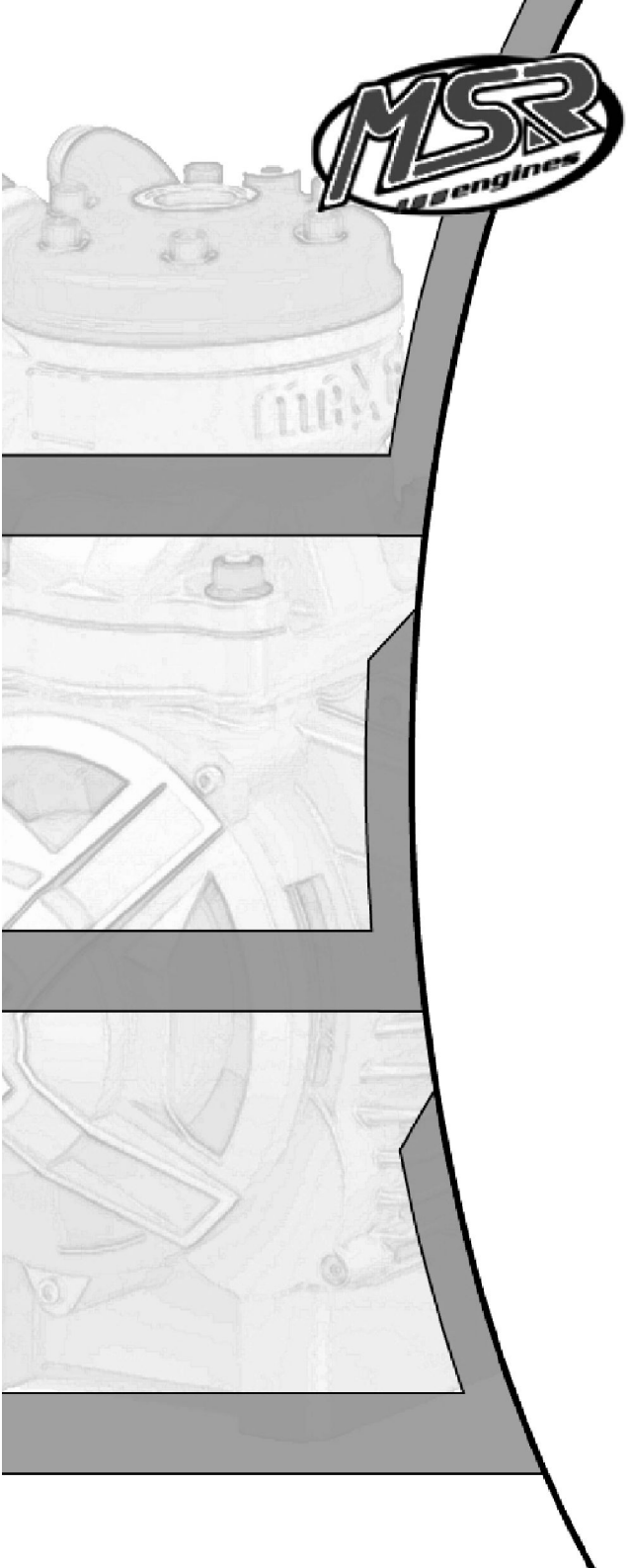
Executive Director: Martin Šula

Krásného 3857/7

636 00 Brno

www.msrengines.eu

www.jetsurf.com

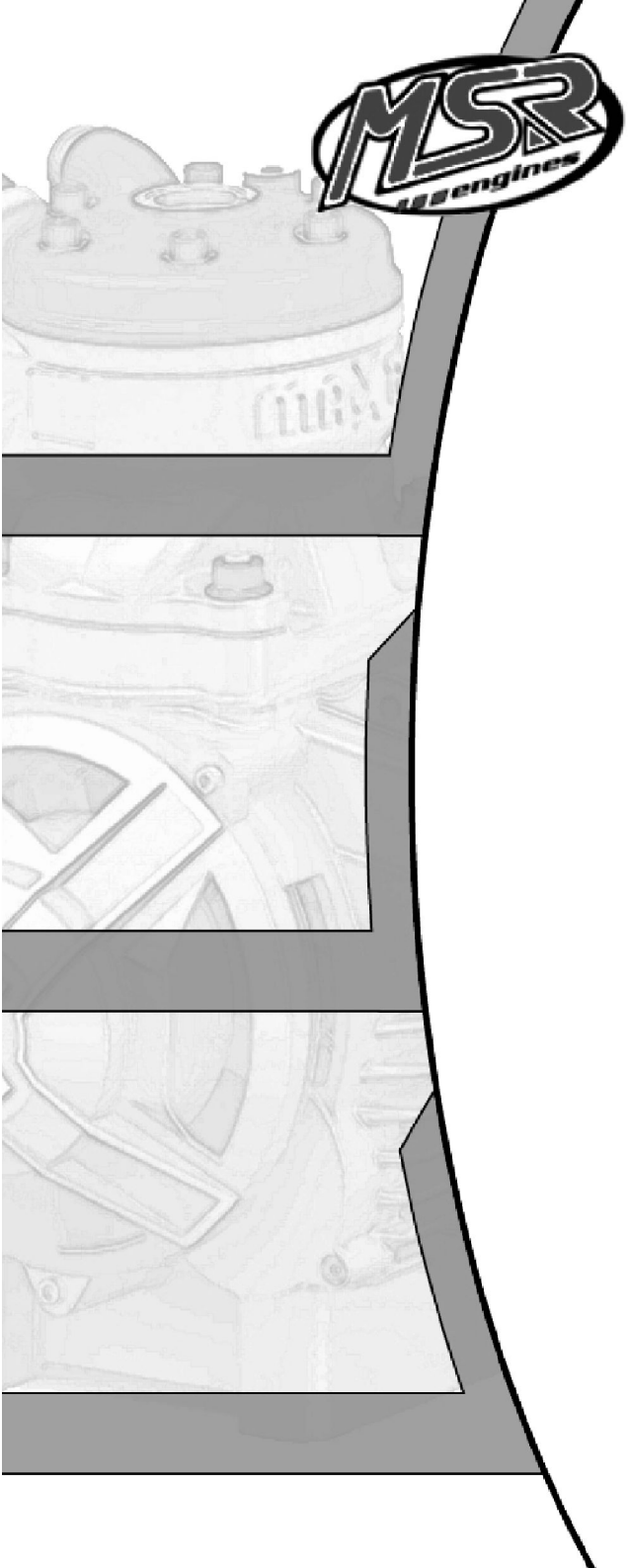


The main line of business for MSR engines s.r.o.:

- Company focuses on the complete development of engine units (idea, development, moulds and castings, production, testing and delivery to the customer).
- Research, development and manufacture of high-tech components for motorsport.

Some successful projects, R&D outputs:

- Development of a new drive motor for model aeroplanes (2006) - in cooperation with MVVS we sold 4000 units in the first year.
- Development and manufacturing of combustion engine for KTM Red Bull Rookies Cup.
- Development of hybrid recuperator of kinetic energy for KTM Red Bull racing team.
- Development of components for 3W - biggest German producers of aircraft engines and engines for unmanned craft.
- Development of turbogenerators for electric energy production from exhaust gases for Skoda Auto a.s.



Project EUREKA

NAME: Development of carbon surfboards for sport and recreation with an independent ecological motor

Name: JetSurf

Project EUREKA No: E! 4497

Project EUREKA CEP No: OE09020

Duration of the project: 2009 - 2012

The total budget of the project. 15.5 mil. CZK (0.56 m EUR)

Principal: Martin Šula

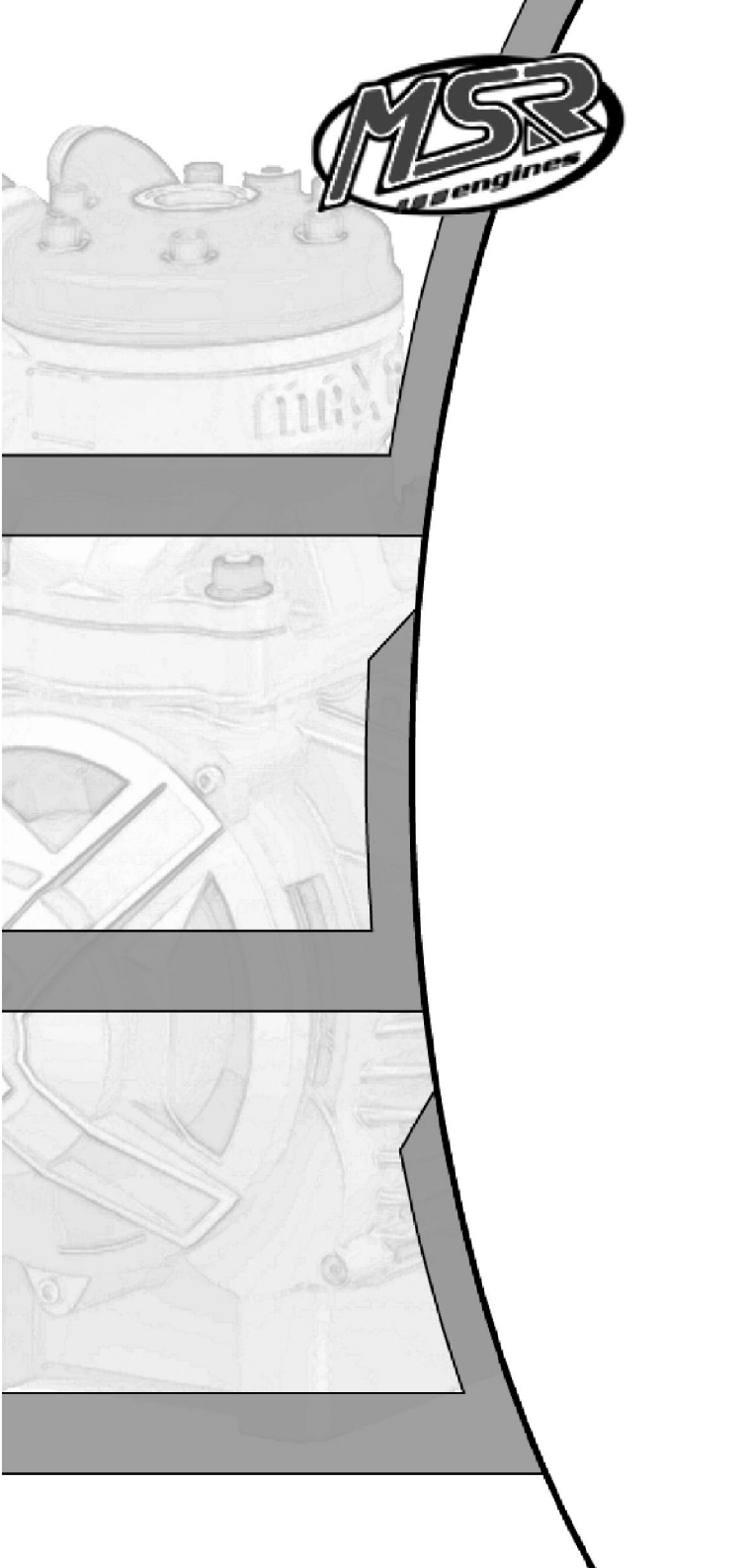
Project partners:

MSR Engines s.r.o. cz - main coordinator

Sterk Technologies, SLO - International partner

Hi Tech Racing Ltd, UK - international partner

JetSurf

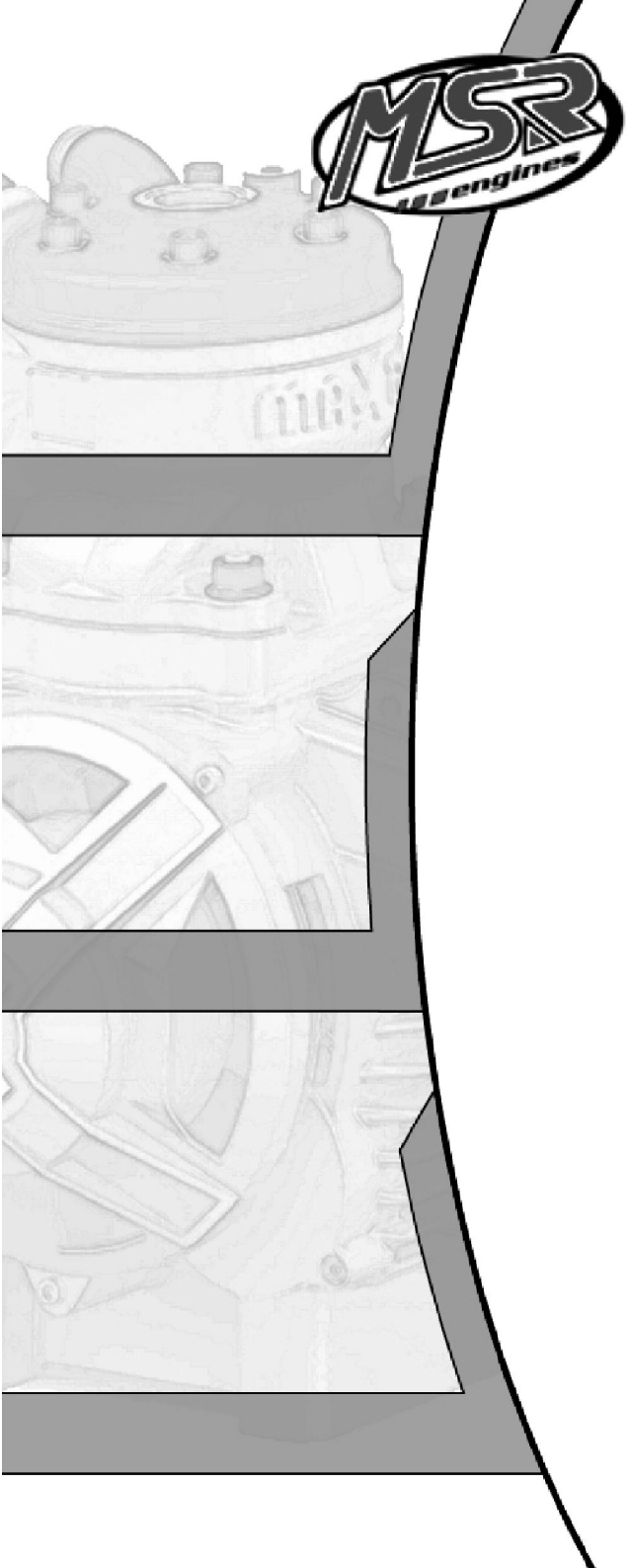


The main objectives of the project:

Aim of the project was development of a competitive product - Motorized surf boards for leisure activities.

The main requirements of the project was to offer a product to market which was novel and not subject to regulations with the following parameters:

- Two types of motor (combustion engine and an environmentally friendly electromotor)
- Significantly smaller dimensions (to existing products = no need to use a trailer, easy logistics)
- Low weight
- Low fuel consumption
- Significantly lower operating costs
- the possibility to use it where ever without restrictions



Content of project - main phases:

1. Stage (2009) development of a new optimized shape of the vessel

- The initial shape of the vessel
- Analysis of the buoyancy of the vessel in the environment
- Shape optimization of the vessel
- The design and development propulsion turbines

2. Stage (2010) Development ecological propulsion units with an internal combustion engine

- Testing available power units
- Design of our custom drive units
- Development of a control unit to regulate the revs
- Data analysis, identification of errors and product design changes

3. Stage (2011) Development electric propulsion units

- Design and production of the first prototype electromotor
- Testing and design changes to engine construction
- Development of battery sources

4. Stage (2012) The testing and adjustment of functional prototypes

- Testing under realistic conditions (salt and fresh water)
- The analysis and presentation of the product
- Production of the prototype testing the final version
- Verify legislative conditions for use abroad

Outcomes of project

Prototype of a motorized surfboard with ecological combustion engine and prototype of surfboard with electromotor.

January 2013: serial production begins of surfboard with petrol engines with the following parameters:

length: 1 800 mm

height: 150 mm

width: 600 mm

weight: 12.5 kg

capacity of motor: 86 and 100 CC

maximum speed: 57 km/h

battery endurance without recharging: 4 hours

Comparison with competing products

JetBoard:

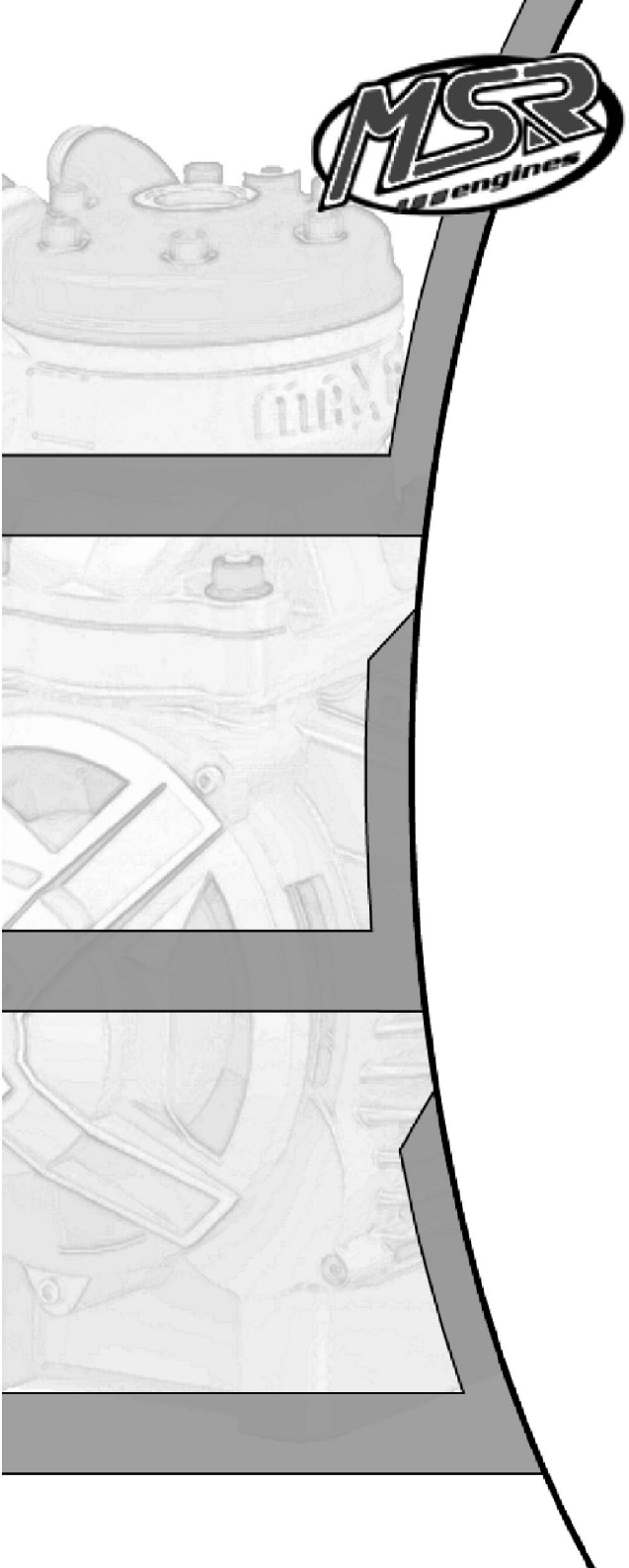
- Heavy (80 kg)
- Difficult transport and handling
- High consumption
- Limited use

Water scooter:

- Very heavy (150+ kg)
- High purchase price
- Need skipper's license
- High consumption
- Labor-intensive maintenance
- Difficult transport and handling

WindSurfing:

- Dependence on weather
- Limited use
- Large dimensions



Economic and market indicators

Market deployment:

monthly production jetsurf: 20 units.

Monthly demand for JetSurf 35 units - globally.

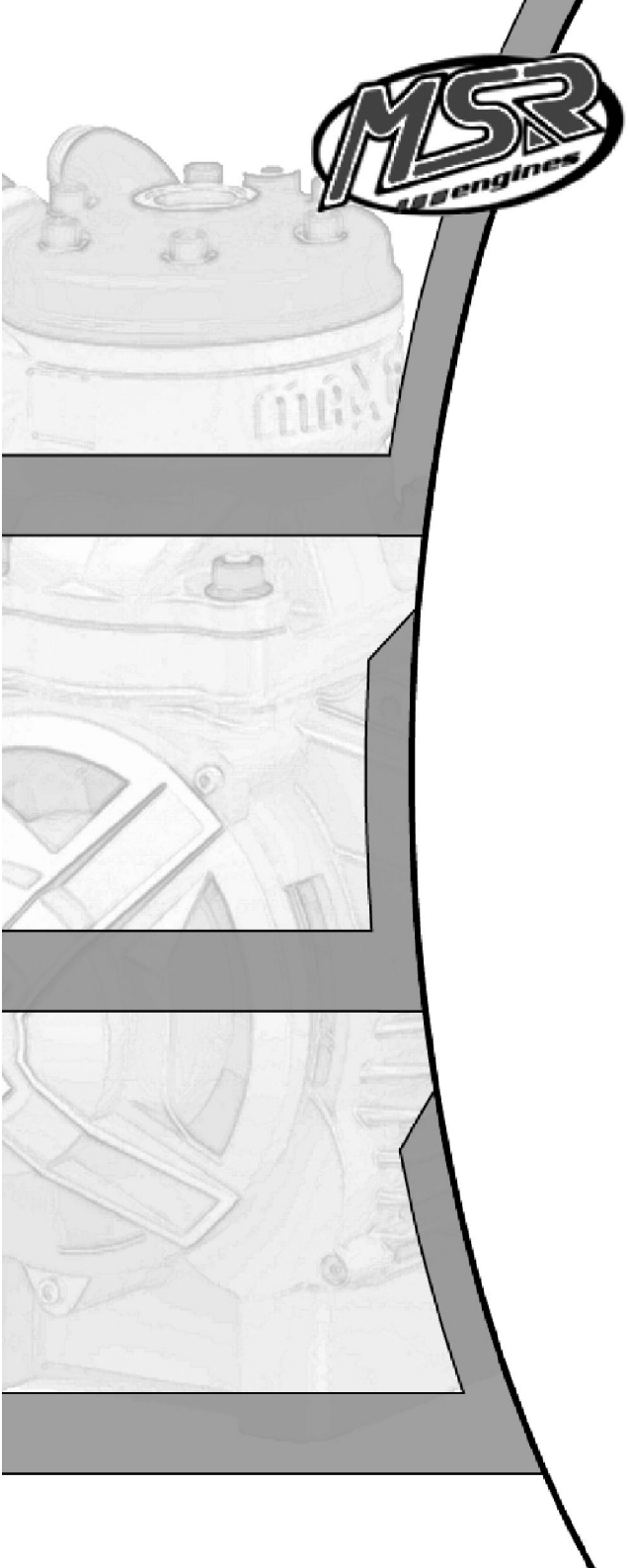
We currently have sales outlets in the Spain, Czech Republic, France, Israel, Brazil, Australia, Russia, SAE.

15 jobs were created as a result of the project.

The economic return on the project.

Annual profitability	over 9 mil CZK
Total cost of the solution of the project	15.5 mil.CZK

The return on the development costs after the first year of production 60 %

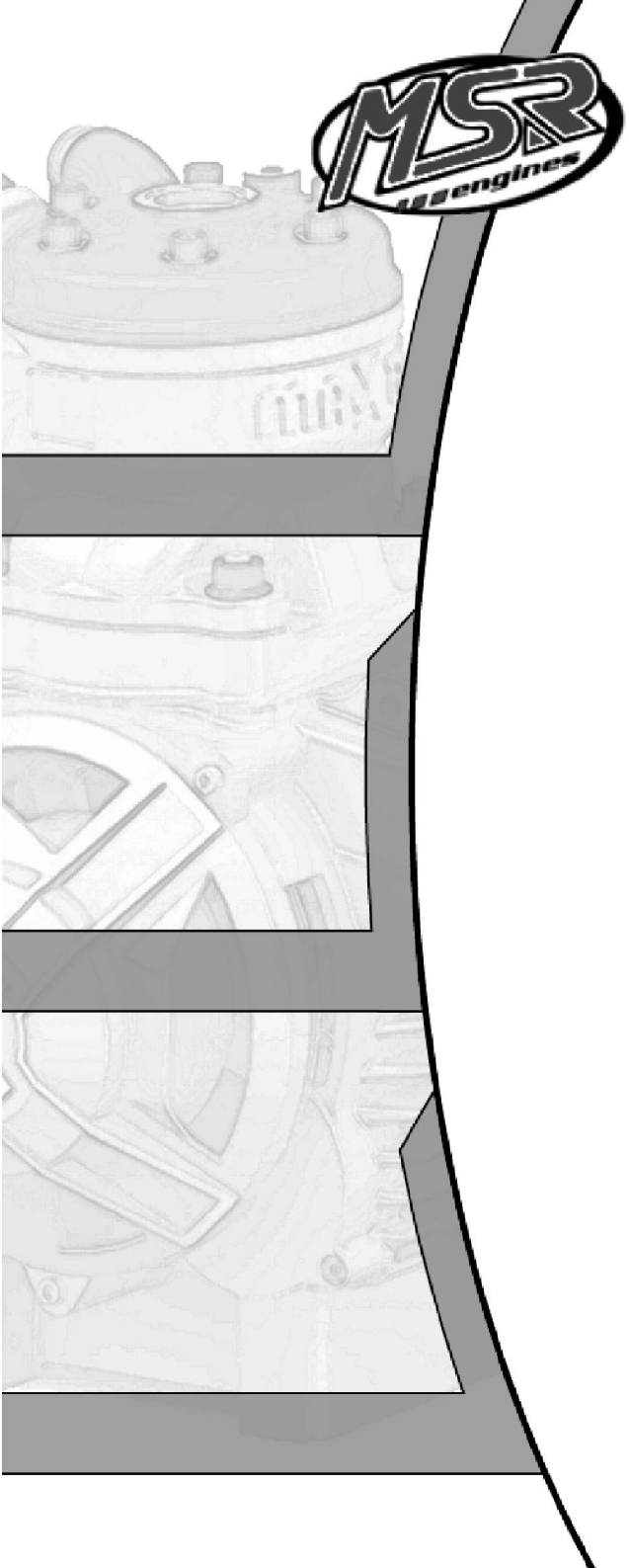


Future development

In view of the legislative conditions, it is necessary to design a new combustion engine with fuel injection - a new EUREKA project named: **GreenTech Engine (E! 8754) - research and development ecological motor with layered filling and injectors for motorized vessels.**

A broader product presentation at the international level as a new sports sector originating in the Czech Republic:

MOTO SURF Grand Prix – Championship



Thank you for your support:

Mr. Josef MARTINEC
Ministry of Education, Youth and Sports

Mr. Svatopluk HALADA
Association of Innovative Entrepreneurship CR