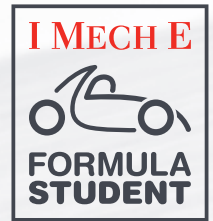


## FORMULA STUDENT

Institution of Mechanical Engineers



# Congratulations to Helsinki Polytechnic

FOR PARTICIPATING IN FORMULA STUDENT 2008

**5th**  
Overall in  
Class 1

**HPF008 is the latest achievement of Helsinki Polytechnic's 11-member Formula Engineering Team. Under the beautiful appearance of the ultra light body panels hides a full blooded racer.**

The team has again managed to reduce the weight of the car by hard development. The result is just less than 200kg. Lightness is considered in every detail of the car. Rigid steel tube space frame, carbon fibre a-arms, magnesium steering gear, multifunctional carbon fibre steering wheel with high tech electrics.

The naturally aspired Yamaha R6 2008 engine is tuned with losing a few unnecessary gears and making our own variable length intake system. Engine management is executed with Finnish Tatech system which includes self developed traction control and launch control systems. Maximum power output is 93hp and 68Nm. The modified 4-speed gearbox is pneumatically actuated and it can be operated either in semi-auto or full-auto mode. Communication between control units is via CAN-bus and information is gathered with two-way telemetry at any time.

The car was made in record time and tested over several hundred kilometres to build confidence in reliability.



<b>Length/width/height/wheelbase</b>	2615 mm/1450 mm/940mm/1650mm
<b>Track (front/rear)</b>	1245mm/1230mm
<b>Weight including 68kg driver (front/rear)</b>	122kg/145kg (full wet car weight of 199kg)
<b>Suspension (front/rear)</b>	Double unequal length A-Arm. Pull rod/push rod actuated horizontally oriented spring and damper
<b>Tyres (front/rear)</b>	20x7.0-13 D2692 Goodyear
<b>Wheels (front/rear)</b>	7" wide, 3 pc Al/Mag Rim, 0.47" neg. Offset
<b>Brakes (front/rear)</b>	Floating, Mild Steel, laser cut, hub mounted, 206mm dia./186mm dia. Vented
<b>Frame type</b>	Steel tube space frame, Ruukki FORM 600 DP steel round tubing 22mm to 31mm dia
<b>Engine</b>	2008 Yamaha R6
<b>Bore/stroke/cylinders/cc</b>	67 x 42,5 mm/4 cylinder/599 cc
<b>Fuel</b>	98 octane petrol
<b>Fuel system</b>	Tatech 6, sequential fuel injection, self developed traction control
<b>Max power/max torque</b>	11,000rpm/8,500rpm
<b>Transmission/differential/final drive</b>	Chain #520/Friction Plate Differential, three different ramp angle setups available at the same differential/3