



ENGINEERING YOUR FUTURE

One Vision....Several Initiatives

Issue 001- October 2009

The All-Encompassing Newsletter



For the last few years we have been running four main schemes:

- ⌘ Formula Schools
- ⌘ Schools Marine Challenge
- ⌘ Gravity Racer
- ⌘ One Day Technology Challenges

We are now running all the schemes under the banner of *Engineering your Future*. With an increasing number of schools and colleges doing more than one of our schemes, especially for curriculum delivery of the Engineering Diploma, one newsletter will simplify things for all. The major change to activity this year is the very welcome news that the Schools Marine Solar Boats is now available for schools from all over the country!! (See *Schools Marine for 2009-10* and *Formula Sun*) We hope to see you all at one or more of our events this year. *Please see information sheet included with this Newsletter for further details of what we do and what you could sign up for.*

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Reflections on Race Days



Schools Marine Challenge 2009-10

Exciting developments for *engineering your future* and all of you budding engineers, are the changes that have come about for the Schools Marine Challenge.

As many of you will know the Schools Marine Challenge is similar to Formula Schools but involves building and racing model boats, www.schoolsmarine.com to find out more! Until now we have been restricted to offering this to schools based in the South of the country. But we are now delighted to report that the most popular category is now available to schools from anywhere in the UK, and we already have interest from France and Hong Kong!



To distinguish from the original Schools Marine project we have given it the name Formula Sun; why Formula Sun? Well to quote a popular phrase..... 'It does what it says on the Tin!'

The new exciting National Solar Challenge project is to design, build, test and race *model boats powered by solar energy*

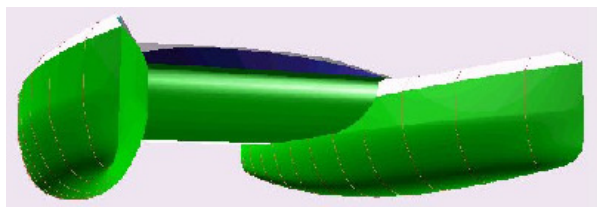
The solar class of boat has always been popular with schools for a variety of reasons, including it being an economical and green project and the least problematic in terms of producing reliable boats. It can be as simple or as technical as you choose, depending on the age and capabilities of the students, the length of time you have to run it etc. The best news of all on this front however, is that it doesn't matter how land-locked your school is, as only a small amount of water is required for you to test your boats and hold school based races – unlike the IC and electric boats which require a Lake!

Teams compete in three rounds of Hull design and manufacture, Powertrain and Teamwork to design build and race boats powered by solar energy alone. Popular delivery methods include: club activity, curriculum project or a combination of both, one day challenge, primary links scheme, open day event or even staff training day activity etc etc !! Formula Sun is tailored to fit the engineering curriculum requirements enabling both individual projects and team delivery to take place side by side. This gives considerable scope for a context when pupils carry out work that requires them to engage with employers as part of their course, finding out about both technical and developmental aspects of working in industry. Schools can build their own tanks to enable testing, evaluation and development to take place.

Once registered you will receive an information pack containing a host of materials and entry to regional race day events, and the final at either the London International or Southampton International Boat shows organised by the British Marine Federation.

Starter kits are inexpensive and key components are recyclable from group to group. The scale of the boats makes it an ideal CAD CAM project, and in this respect we are supported by Techsoft who have prototyped both design and manufacturing models.

We plan to have the official launch at the London International Boat Show in January 2010 and will contact you when arrangements have been finalised.



Our Partners, so far.....



Our long-time funder the Lloyd's Register Educational Trust (LRET) is the leading body, to take the SMC into the future. The LRET supports a number of the top UK schemes, of which we are one, encouraging young people to get hands-on with engineering and science.



We created the Schools Marine Challenge with The British Marine Federation in 2003, and they have been at the core of all activity and funding ever since. For the future they plan to host both launch and the Solar Boats finals at one of their prestigious Boat Shows.



Techsoft are well known in the field of CAD CAM software equipment supply, and have been at our two Regional events this summer demonstrating how CAD CAM can be employed to produce boats for the challenge.



North Wales Watersports have just been successful in working with their major funding partner the Nuclear Decommissioning Authority in securing the expansion of the Marine Challenge to Wales where we have only had a limited presence in the past.

Formula Schools 2009-10

After a superb 2009 culminating in one of the best ever Race Days we are keen for the scheme to carry on, despite the fact that at this point in time we do not have a source of funding.

We will be supporting the scheme as in previous years with the exception of the following:

- No rookie school entries for the IC class if they need full IC kit, as we do not have a stock of all components.
- We will not be able to do many personal school visits.
- Electric class and Electric Engineering class no change

Race Day

Next June is still a significant way off and we are hopeful that we will find funding for the traditional Silverstone event. However regardless of whether we have the funding to run an event on that scale we will have a Race Day where all schools can race their cars.

What we ask of you is that you register to take part in Formula Schools

- Registration £150 to assist with administrative costs and contribute to Race Day (should work out cheaper for most schools!)
- Order whatever hardware you need but please take note of the restricted supply of parts for the IC challenge below
- Send in plenty of news and pictures to go onto the website and help our lobbying of potential sponsors.

You will find the new up-dated Registration Form for 2010 entries on the back page of this Newsletter, or on line, so please complete and return to us as soon as possible. Remember, your continued support and enthusiasm is what has always been behind the success of the Formula Schools Challenge.

The I.C class kits

we have **VERY LIMITED STOCK OF THE FOLLOWING**

Rear springs FS17 - Servo saver FS37 - Ball joints FS36 - Kingpins FS19 - Front stub axles FS5 and FS20 - Rear suspension pivot FS35 - Drive Flange FS 16 - Rear axles FS 15, - Air filter and Clutch Drum

Electric Engineering Class

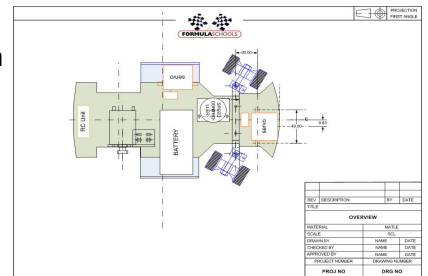
The electric engineering class was created exclusively to deliver popular engineering curriculum options at KS4 and 5. Suitable 'off the peg' for GCSE engineering, BTEC Eng level 2, PEO levels 1&2, Engineering Diploma, Young Apprenticeship courses etc.

The project centres around producing a 1/12th scale remote control car powered by an electric motor.

Materials and 'impossible to make' components are supplied. Pupils individually engineer all chassis and powertrain sub-assemblies either from their own designs or to the Formula Schools engineering schedule and drawings.

The scope of the project is broad and can be tailored to any engineering curriculum requiring hands on skills development in a range of disciplines, depending on your requirements, including:

Engineering Design, Materials Selection and Identification, Processing Methods, Measuring and Marking Out, Fitting Using Hand Skills, Machining inc Drilling, Milling, Turning, Forming and Jointing, Heat Treatment etc, Computer Aided Design, CNC Machining, Mould Design, Vacuum Forming or Composites Production.



Solent Skills Quest One Day Sail Boat Challenge

Sail Boat Challenge event. The students had an exciting day in store for them which began with the morning spent in the prestigious Cruise Liner Terminal at Southampton, where they had to design and race their own sail boats. As ever, we were impressed by the varying and unique designs, arrived at only after very careful planning and good team work on everyone's part. Although with this challenge you can be a little at the mercy of the wind, there's no doubt whatsoever that the best boat won, with its simple but very effective design. Special mention deserves to be given to other teams such as Hamble Community Sports College, whose designs were detailed and well thought through. The afternoon was spent at the Southampton Boat Show, courtesy of the BMF (The British Marine Federation) who generously supplied the tickets. The Boat Show is a very grand event in the Marine Calendar; a showcase for the world of Marine Engineering. Students were able to see at first hand the splendour of the luxury yachts of companies such as Princess and Sunseeker, and the Jubilee Trust's Square Rigger, and everything else in between. One can also check out other branches of the Marine Leisure Industry and see the latest in kayak design or traditionally built wooden sailing boats. There really is something for everyone with an affinity for messing about on the water.



Eventual overall winners from Thornodon are the team with the big sail. It worked for them but don't think it is as simple as that all the time!

Eventual overall winners from Thornodon are the team with the big sail. It worked for them but don't think it is as simple as that all the time!



Best Designed Boat from Hamble Community Sports College

Registration Forms



2009/10 Registration Form - Formula Schools Challenge



Formula Schools Challenge
 Registration £150 to assist with administrative costs and contribute towards Race Day
 Order whatever hardware you need with the exception of steering suspension components and air filters for the IC class
 This cost also includes:
 • Entry to Race Day for up to 15 persons (by the Spring term)
 • Support, via phone, e-mail, web
 • Curriculum delivery materials
 • Newsletters

Date: (school name) would like to participate in the
 Formula Schools Challenge
 Registration (VAT exempt) **£150.00**

Kits

Please identify your requirements regarding entry type:

Type of entry: (please tick)	Number Reqd	Total Cost each	Total Cost	
Electric		£52.00		Please note: To allow for manufacture of the kits they will not be despatched until November 2009. If this creates a significant problem for your school please contact us.
Electric Engineering kits		£30.00		
IC* no full kits available				

Please send us a list of your requirements

We require an official order or number before we can despatch kits
 We will invoice you once goods have been despatched.
 Please send separately via school finance office or enclose order number with this form.

Order number / reference

School Details Approx number of pupils involved / year group /

Address

County

Postcode

Contact Name

Telephone

Fax

E-mail

Times Break..... Lunch.....

Signed..... Position in organisation.....



2009/10 Registration Form – Schools Marine Solar Challenge



Date:

(school name) would like to participate in the Schools Marine Solar Challenge

Registration £100 to assist with administrative costs and contribute towards Race Day

This cost includes:

<input type="checkbox"/>	Entry to Race Day for up to 15 persons (by the Spring term)	<input type="checkbox"/>	Curriculum delivery materials
<input type="checkbox"/>	Support, via phone, e-mail, web	<input type="checkbox"/>	Newsletters
Registration (VAT exempt)		00 0013	
Please make cheques payable to High Tension Ltd			

Kits

Please identify your requirements regarding entry type:

Solar kits comprising 2 solar cells, propeller shaft, low inertia motor propeller	Number Reqd	Cost each	Total Cost	
		£14.00		Please note: To allow for manufacture of the kits they will not be despatched until November 2009. If this creates a significant problem for your school please contact us.
		VAT +		

We require an official order or number before we can despatch kits, and will invoice you once goods have been despatched. Please send this separately via school finance office or enclose order number with this form.

Order number / reference

Approx number of pupils involved / year group /

School Details

Address

County

Postcode

Contact Name

Telephone

Fax

E-mail

Times Break..... Lunch.....

Signed..... Position in organisation.....