

Welcome from Dr S.Y. Poon, CEO and founder...

Despite the current economic climate, Romax has celebrated several successes during the last quarter. We have opened an office in Paris, as part of our continuing commitment to the Southern European market. Our annual European and North American conferences held in September and October were considered informative and valuable by all the delegates and we thank everyone that took time out from their busy schedules to attend. We have continued to expand our presence in the wind turbine market with the signing of two major contracts with China's largest machine tool company and a large Chinese industrial manufacturing group. In late October we will be participating in the Global Windpower event in Beijing and will also be hosting a joint technology seminar with the Chinese Wind Energy Association on 27 and 28 October in Beijing.

New Paris Office for Romax

Romax Technology is pleased to announce that it has now opened an office in Paris. The new location will give Romax a stronger presence in Southern Europe with Paris bridging the gap between the Spanish, Italian and French markets.

From the Paris office, Romax will provide support to its customers in a number of areas across both the transportation and energy side of the business. From coping with CO2 emissions, fuel consumption, reliability and NVH requirements on transmissions to simultaneously supporting the development of new technologies such as hybrid and fuel cells. The fast growing wind turbine business will also be a key area of development in the Paris office as Romax looks to serve customers, particularly in Spain.

The Paris office will be managed by François Michel as Southern Europe Business Manager. François received a Mechanical Engineering degree before embarking upon a career in engineering services business for the Bertrand Group where he spent 4 years. He then joined SKF as a Business Development Manager for SKF's Car Powertrain and Steering Business Unit.

"Proximity to our customers is crucial for Romax, in order to better

integrate RomaxDesigner software into our customer's development process. It also allows us to make sure our consultancy services are tailored to meet the specific needs of each customer," said Michel.

Romax Technology is already recognised as a global company with offices worldwide including UK, Germany, India, Japan, Korea, China and the US. The addition of the Paris office will further strengthen Romax's presence across Europe.

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■ Romax announces new office in Paris

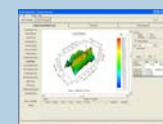
■ Romax Technology conferences a huge success

■ Romax returns from HusumWindEnergy

■ Romax signs new wind contracts

■ ANSol/HGSIM/LDP interfaces

■ Useful Tip: Levels of planetary modelling



Whats on:

CTI Transmission Symposium
4-6 December, Berlin, Germany
Visit us at **booth no. 5 in the foyer** to find out more about our engineering services.

News in Brief:

On 13 & 14 October Romax hosted an educational seminar organised by the Sustainable Power Generation and Supply (SuperGen) Wind Consortium. The Consortium is led by Strathclyde and Durham Universities and consists of 9 research groups with expertise in wind turbine technology such as aerodynamics, hydrodynamics and materials. The aim of the seminar was for researchers to gain knowledge of all research areas and to encourage opportunities for cross-fertilisation of ideas. This was also an opportunity for Romax engineers to gain knowledge of how the full wind turbine system affects drive train design and to meet leading academics from the wind turbine field. www.supergenwind.org.uk

2008 Romax Conferences Considered a Success by Attendees

Our European Technology Conference in Warwick, UK and North American User Conference in Detroit, USA were both rated a success by 100% of the attendees that gave feedback.

Keynote speeches from Professor Berthold Schlecht from the Technical University of Dresden and Dr Ahmet Kahraman from Ohio State University joined guest presentations from Alstom Transport, Caterpillar, Ford, GM Powertrain, JCB Transmissions and Mitsubishi.

Romax experts delivered insights into Advanced Dynamics Applications & Gear Rattle, Bearings, Drivetrain Dynamics, Functionalities and



■ Above picture: Dr Kahraman from Ohio State University delivers his keynote speech in Detroit

Developments, Gearbox Efficiency Calculations, Hybrid, IEC Design Standards, NVH, Reliability and Durability, Transmission Testing and Development and Software Interfaces.

“Very informative, good networking opportunity” – NSK

Roundtables and evening events provided a great opportunity to share experiences, problems and solutions with other Romax users and experts.

Despite the current economic climate, our 5th European Technology Conference drew attendees to the UK from all over Europe, including, Germany, France, Italy, Sweden, Belgium, Finland and even Japan!

“...to learn about applications of Romax at other companies” – ATI

Thank you to all of you that took time out of your busy work schedules to attend what we hope was an informative and valuable conference for



■ Above picture: Mr. Younsu Park, Director of Transportation at Romax opens ETC 08

you. We hope to see you again next year with tentative dates to be announced soon on www.romaxtech.com

If you were unable to attend, but would like to receive a copy of the presentations on CD, please email your request to marketing@romaxtech.com All attendees will automatically be sent a copy in due course.

Success for Romax Technology at HusumWindEnergy 2008

Early in September 2008, Romax Technology showcased its innovative products at HusumWindEnergy, the largest tradeshow for the wind energy industry. We exhibited at booth 3C22 in hall 3, with a unique custom designed booth, where we demonstrated our advanced software RomaxWind and showcased our consultancy expertise to many companies in the wind energy sector including turbine manufacturers, gearbox and bearing suppliers and wind farm operators. Delegates at the event dropped by the Romax stand for demonstrations on our whole system approach to complete drivetrain design and analysis. There were also opportunities to talk more in depth with some of our experts who attended the event.

“HusumWindEnergy is a key event for Romax Technology and we were very pleased to meet and interact with a great number of companies within the

wind industry,” said Xiaobing Hu, Business Development Manager for Wind at Romax.

Romax also co-hosted an evening reception with BERR UK Renewables at the UK pavilion at which UK based companies looking to enter into the wind market attended. The reception offered them a unique opportunity to learn more about the market drivers while networking with key people from within the industry.



Romax will next be exhibiting at Global Wind Power in Beijing from 29 to 31 October at booth 205 & 206. On 27 and 28 October we will be co-hosting a seminar with the Chinese Wind Energy Association (CWEA) at which some of our technical experts will present on the development and design of effective gearboxes for wind energy applications. For more information please email enquiries@romaxwind.com



RomaxDesigner is the complete simulation environment for transmission and driveline engineering. The software suite encompasses a variety of configurations focused on industries and applications, including; noise, vibration and harshness, transmission design and durability, design automation and optimisation, advanced bearing simulation, wind turbine solutions.

Romax Technology Strengthens China's Wind Energy Capabilities

With huge capabilities in heavy industry, China is well placed to fulfil potential of the rapidly growing wind energy market. However, success in wind energy demands exceptional technical ability and high quality manufacturing.

Romax Technology is providing the knowledge and expertise to help manufacturers in China meet these demands, and has recently signed two major deals in the region.

The first is a multi-million pound deal with QCMT&T, China's largest machine tool company. Over the course of the next 14 months, Romax will provide QCMT&T with design and development support for a 2MW wind turbine gearbox, as well as software, drawings and training, testing, and type certification.

We will also be collaborating with large industrial manufacturing group CQWJ, on the design of a 1.5MW wind turbine

gearbox. The contract was witnessed by the Mayor of Chongqing, the UK Minister for Transport and the Former UK Deputy Prime Minister.

With the help of experienced companies like Romax Chinese manufacturers can achieve higher technical and manufacturing standards, and can begin to look to supply outside China, and start to bridge the gaps in the supply chain in the European market.

"Chinese suppliers could hold the key to pushing forward the development of the European wind turbine market. Our strong links in Asia are already being used to connect European turbine manufacturers with capable component

suppliers to bridge the huge supply gaps that exist in the market," concluded Director of Renewable Energy, Andy Poon.

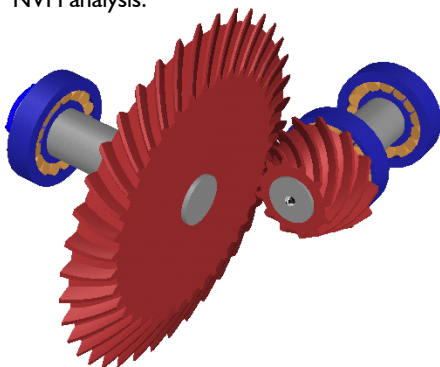


■ Above picture :CQWJ signing ceremony

ANSol/HGSim/LDP Interfaces

Romax is pleased to announce the development of a series of interfaces with specialised gear design software: HFH/HFM, HGSim and WindowsLDP.

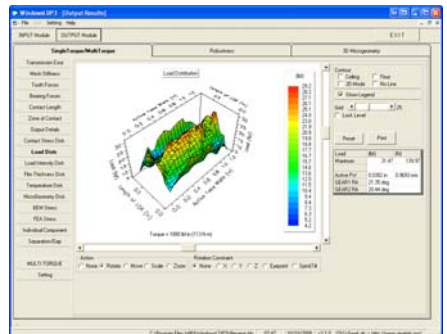
HFH/HFM (Hypoid Face Hobbed / Hypoid Face Milled) has been developed by Advanced Numerical Solutions over the last ten years, and enables the geometric modelling and contact analysis of spiral bevel and hypoid gears. Romax have implemented an interface which enables mesh misalignments calculated by a RomaxDesigner analysis to be automatically exported to HFH/HFM. The hypoid gear transmission error calculated by HFH/HFM is then automatically returned to RomaxDesigner for use in NVH analysis.



■ Above: Hypoid gear modelled within RomaxDesigner

HGSim (Hypoid Gear Mesh and Dynamic Simulation) has been developed by the Hypoid and Bevel Gear Mesh and Dynamic Modelling Consortium at the University of Cincinnati over the last six years and enables the simulation of the dynamic and vibration response of hypoid/bevel geared drives. Romax have implemented an interface which generates shaft/bearing support and bearing stiffness matrices for a non-linear gearbox model in a format which can be read directly into HGSim.

WindowsLDP (Load Distribution Program) has been developed by the GearLab at Ohio State University, and enables geometric modelling and contact analysis of cylindrical gears. Romax has implemented an interface which enables WindowsLDP to be used for micro-geometry analysis. The interface exports geometry and micro-geometry from RomaxDesigner to a WindowsLDP input file, and then reads all WindowsLDP results for displaying and utilising in the rest of RomaxDesigner. This includes the transmission error harmonics and average mesh stiffness for use in RomaxNVH, as well as shuttling forces, contact stress,



■ Above: WindowsLDP output pane

temperature distribution and film thickness results that can now be viewed in the normal Romax micro-geometry window.

These interfaces all enable system model effects calculated within RomaxDesigner to be accurately accounted for in a detailed gear mesh analysis and with HFH/HFM and WindowsLDP, the calculated excitation can be used to investigate response of a full system, therefore enabling the gear designer to account for system interactions in the design process.

Romax Holds Wind Energy Technology Transfer Seminar in Korea

Romax Technology recently held a technology transfer seminar in September in South Korea which focused on the latest trends from within the wind turbine industry in Europe and UK as well presenting Romax's unique technology for wind turbine gearbox and bearing design and analysis.

The one day seminar held on 19 September was a success with around 30 attendees present from turbine manufacturers, bearing and gearbox suppliers and academic institutions. Romax experts gave interesting presentations which included:

- Wind energy policy and technology development in UK and Europe by Andy Poon, Director of Wind Energy
- Advanced Bearing Analysis and consideration of flexible components for designing wind turbine bearings by Wooyong Song, Bearing Specialist
- Wind turbine gearbox design and analysis by Chris Blockley, Durability Team Leader

The event also gave attendees an opportunity to see demonstrations of the RomaxWind software package.

The wind specific seminar is just one of the monthly technology transfer seminars which are organised and held by Romax in Korea. Events are free of charge for Romax maintenance customers and 70,000 KRW for other attendees.

The next seminar which will be held in November will focus on



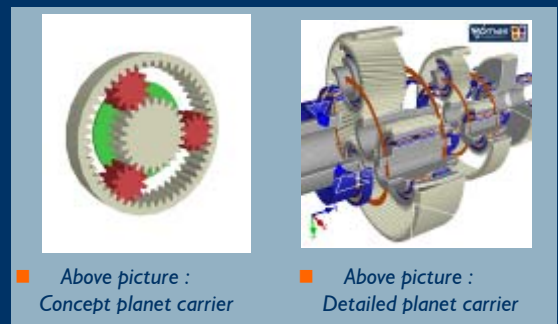
RomaxDesigner shaft fatigue analysis and misalignment stack up.

Useful tip: Levels of Planetary System Modelling

There are 4 options when creating a planetary system in RomaxDesigner. The table on the right shows the combinations of concept or detailed components that can be used.

Planet Carrier	Gears	
	Concept	Detailed
Concept	1	2
Detailed	3	4

1. Concept Planet Carrier with concept gears
This option is recommended for concept design and negates the need for planet pins, bearings and gear blanks. Gear rating calculations cannot be performed on concept gears and planet misalignment is assumed equal.
2. Concept Planet Carrier with detailed gears
This is as option 1, however allows detailed gears to be rated to a chosen standard. Equal planetary load sharing is still assumed.
3. Detailed Planet Carrier with concept gears
A detailed planet carrier allows planet pins, bearings and gear blanks to be modelled. The user can calculate accurate and unequal planetary misalignment and load sharing. As in option 1, gears cannot be rated.
4. Detailed Planet Carrier with Detailed Gears
This option will provide the most accurate model. Unequal planetary load sharing and detailed misalignment calculations can be performed and gears can be rated.



Above picture : Concept planet carrier

Above picture : Detailed planet carrier



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