



# EVOLUTION



[www.rdstec.com](http://www.rdstec.com)

## Welcome

Welcome to the latest edition of RDS Evolution. In this issue read about how international co-operation leads to truly international development, see the future of on-board machinery

hardware and read about how RDS electronics helped win Gold medal awards for customers alongside the rest of the latest news from RDS.

## New Holland TC Combine Wizard A Truly International Development

For a number of years, RDS has supplied CNH with a multi-function monitor for their TC range of combine harvesters. RDS was then asked to develop a version of the instrument that could be used on the up-dated TC range and which could interface with their latest low emissions Tier 3 engines.

The development uses the well-proven Wizard platform, which evolved from the classic RDS UDM



RDS developments, is their hybrid nature - see later in this issue. These instruments can accept hardware inputs, provide physical outputs, and accept a CAN interface. In the New Holland TC example, there were six physical inputs and five physical outputs, as well as J1939 CAN and the provision for GPS or radar-derived speed measurement.

The TC machines are manufactured by CNH in Poland, with engineering control in Belgium and the engine suppliers in Italy and Sweden. RDS is based in the UK and used one of its own software engineers for the development, who is based in the Netherlands. Six countries: one successful development. Says RDS Engineering Director, Peter Nelson "this project could have been difficult without email and the ability to send test and evaluation software to the customer over the internet". Indeed it would.



series. This compact but highly intelligent instrument, monitors and measures a host of critical machine functions on the TC, notably: forward speed, engine speed, engine hours, coolant temperature, engine load %, total area and partial area harvested. In addition, it interfaces through the J1939 protocol with the Tier 3 engine management computer. This enables the RDS instrument to provide control over engine speed, rate of change of engine speed, engine shut down and provide the display terminal for any error codes coming from the engine. A feature of the Wizard, and all new

## In this issue:

**RDS customers Sulky & McHale strike Gold!**

**The future hardware platforms from RDS**

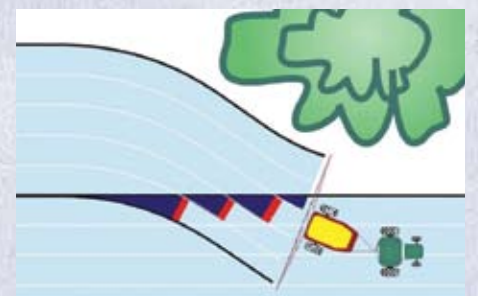
**Controller for Tycrop top dresser**

**GreenMech & RDS just 'chipper'**

**Exhibition dates for 2007/8**

## New - For Sprayer Manufacturers Automatic section control by GPS

The RDS ASC 100 is an intelligent automatic section control system with split second precision, enabling operators to minimise over-application and missed areas, resulting in efficient, cost effective spraying.



## RDS Customers Strike Gold!

Two regular customers of RDS were recently awarded Gold Medals for their developments, which included RDS Control Boxes

### SULKY Ecovision: Ecology and Economy

France's leading manufacturer of drills and spreaders has been awarded the prestigious Gold Medal Innovation Award for their ECOVISION. This being an evolution of their well established VISION system, supplied by RDS.

This invention has been designed to fit DPX fertiliser spreaders on farms using "precision farming" techniques. It leads the way to fertiliser economies by improved applications in each field, especially on headlands, borders, corners and irregular areas.

SULKY observed that, even though today with a standard centrifugal spreader there is a quality pattern spread, it can be improved. So, even with a proportional drive system and GPS guidance, there are, especially on borders and field angles, a number of small zones with above or below the

target rate. In actual fact, if the overall rate is correct to within the nearest kg/ha, over 20% of the area covered will have received slightly either above or below the required application rate!

ECOVISION makes a diagnosis, in real time, of the distance from the previous pass as well as the quantities already applied during this pass. It then optimizes the spread pattern by calculating the opposite graph of that previously spread on the field. Therefore, depending on the field's characteristics, it adapts the dose (a function which is combined with the rate proportional and on-the-move rate modulation) and the fertiliser pattern applied to the field so as to optimise the application. For more information see [www.sulky-burel.com](http://www.sulky-burel.com) or visit their stand 6 E E16-F10 at SIMA.



### McHale: Expert Plus is a 'wrap' for RDS and McHale

Five years ago McHale developed and introduced the Fusion baler/wrapper combination. This machine has proved extremely successful and in recognition of this McHale received the prestigious Gold Medal from the Royal Agricultural Society of England.

From the very early days McHale have always used RDS electronics. As the product range developed, different control consoles from RDS were selected for different machines. The development of the new RDS 'Expert Plus' in conjunction with McHale has continued this process of working together. As a direct result of operator demands for more information, the standard Expert instrument was enhanced to include a 128x160 pixel dot-matrix display and loudspeaker to suit McHale higher end products. The Expert Plus has a range of tones and volumes from the loudspeaker to help the operator to distinguish between different status alarms plus the inclusion of CAN-BUS technology ensures the Expert Plus will never be short of input/output capability.

As John Biggins, Sales and Marketing Manager at McHale confirms, "The

Expert has been a fantastic product for our wrappers but for the higher end of the range operators want to see what is happening, and unfortunately the simple display on the Expert was

not sufficient. The new Expert Plus addresses this and feedback from pre-production systems in the field is very positive".

For more information see [www.mchale.net](http://www.mchale.net) or visit their stand at SIMA.

**Whatever the application, the Expert Plus appears set to become a successful part of the product line-up at RDS!**



## Exciting new Hardware Platforms from RDS

A major strength of RDS is the ability to respond rapidly to new product development. This has been made possible by following the philosophy of having a wide range of core hardware platforms.

The development, design, production tooling, testing and approvals of any hardware is a time consuming and costly process. Using the basis

of proven hardware platforms means the costs can be amortised over significant volumes and the development processes and times can be compressed to a minimum.

The resulting benefits to the OEM and end user customers are a faster time from concept to market and reduced development and production costs.

This concept began with the UDM instrument and has been successfully continued for over 20 years. The family of core hardware platforms now includes Wizard, Wizard HC, Expert and Pro Series together with a range of standard junction boxes and interfaces.

The range is now being expanded with the introduction of a number of new platforms:



### Expert Plus

This combines the full complement of 20 high current outputs, 12 digital and 7 analogue inputs with the 160 x 128 pixel graphic display used on the Pro Series. This provides a powerful user interface for electro-hydraulic services together with a 'user-friendly', menu-driven graphic display. The Expert Plus has been adopted by bale wrapper OEMs and has successfully completed two full wrapping seasons.



### G-Wiz.

As the name implies, this will be a big brother to the current Wizard. This instrument will offer a 100mm (4") graphic display with the same 160 x 128 pixel resolution as the Pro Series and Expert Plus. It will include direct digital and analogue inputs, direct outputs, as well as CAN and RS232 serial interfaces. With the introduction of new, cleaner, Tier 3 engines into self-propelled vehicles, the G-Wiz offers the OEM a user interface capable of displaying critical engine functions and the ability to send commands to the engine. It is by no means limited to this application and will provide a full monitoring, measuring and regulation system.



### PSi

The Pro-Series platform continues to serve the requirements of a wide range of applications. With the increasing demands for traceability and record keeping, the Pro-Series is being updated and will be named the PSi. The PSi will have an integrated SD memory card port as standard, which will enable the simple transfer of data from the instrument to the office PC.



### CAN BUS

With the increasing complexity of vehicle electronics, and the increasing complexity and cost of wiring harnesses, many systems are moving towards CAN based technology. Instead of direct inputs and outputs all going back to the instrument in the cab, a number of CAN modules around the machine communicate with each other and with the instrument via a simple 4-core cable. The successful 'core hardware' philosophy extends to our CAN modules and a family of modules offer an appropriate mix of inputs and outputs to suit most applications.

## Controller for TYCROP top-dressing Machine.

Market leading North American top-dressing machine manufacturer, Tycrop Manufacturing Ltd has selected RDS as their electronics partner. Based close



to Vancouver, Canada, Tycrop have launched the control unit for their MH and Pro-Pass range. The control unit is based on the RDS Expert platform and provides convenient and fine control of all machine functions; including belt speed and direction, raising and lowering of the machine,



spinner speed and option speed. Up to six pre-set spread rates can be set on the instrument – “as easy as pre-setting the FM stations on your car radio” said Tycrop president, Kevin McCrory. Custom software was written to provide the precise functionality required by Tycrop, including both direct drive and PWM proportional control of the hydraulics. RDS worked closely both with Tycrop, and their hydraulics supplier to engineer the required solution.

## Everything's just 'Chipper' for GreenMech and RDS

GreenMech Ltd, a leading wood-chipper and green-waste recycling manufacturer, has recently introduced a new electronic chipper control system on their machines. Developed by RDS through close co-operation with GreenMech, RDS produced this system to suit all the aspects required from safety monitoring to controlling the 'no-stress' valves that were needed on the chipper as well as including numerous security features.

Managing Director of GreenMech, Jonathan Turner, is very satisfied with the integration and performance, and described the system as “reacting much quicker to any drop in chipper RPM which ensures the operator gets



maximum output from the machine.” This success with GreenMech clearly demonstrates RDS' ability to move



quickly and succeed in new markets.

For more information visit [www.greenmech.co.uk](http://www.greenmech.co.uk)

## Forthcoming Exhibitions in 2007/8:

March 4-8	SIMA: Paris Nord Villepinte, Paris, FRANCE	RDS
March 7-8	Triumph of Agriculture: Omaha, Nebraska, USA	Loup Electronics
March 13-16	IMHX 2007: NEC Birmingham, UK	RDS
April 23-29	BAUMA 2007: Munich, GERMANY	RDS
May 1-3	Coal Prep: Lexington, Kentucky, USA	Loup Electronics
June 12-14	IWM: Paignton, Devon, UK	RDS
June 13-14	CEREALS: Wendy, Cambridgeshire, UK	RDS
June 26-28	HILLHEAD 2007: Buxton, Derbyshire, UK	RDS
Nov 5-10	BATIMAT 2007: Paris, FRANCE	RDS
Mar 11-15	CON-EXPO 2008 Las Vegas, USA	RDS

