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The importance of good design

The Case IH Maxxum 145 Multicontroller won 'Best Design 2019' at the EIMA International Expo in Bologna, Italy, the judges appreciating how revisions to the Maxxum range have given it a fresh, new look, as well as the importance of functionality and form in a modern tractor's styling. This model also won the 'Tractor of the Year 2019', which recognised the advantages of its ActiveDrive 8 eight-step semi-powershift transmission in enhancing efficiency and the Multicontroller armrest and joystick in making operation easier. Who better to discuss what constitutes good design and the contribution it makes to farm equipment than David Wilkie, Design Director, CNH Industrial.



PRESS RELEASE

Design opened my eyes to a whole world that I never knew existed when growing up in Glasgow and I count myself very fortunate to have enjoyed a career in a profession about which I am passionate.

What makes my role at CNH Industrial so exciting is that this amazing company recognises the importance of good design and is unique in bringing together talented individuals from different cultures, backgrounds and industries. It provides a wonderful platform to apply my 30 years of knowledge from the automotive sector to agricultural machinery, construction equipment and commercial vehicles. It's challenging, exciting and a lot of fun.

Buying a car is a decision which is often, and sometimes entirely, made with the heart, so the design process focuses heavily on creating emotion and a strong 'want one' factor. Purchasing industrial equipment is based largely on economics and function: the product must do the job cost-effectively, economically and reliably, then keep doing that over a long period.

When I look at the farm equipment of 40 or 50 years ago it is apparent that most were 'engineering-first' designs and almost entirely function-led. The equipment was there to do a job and how it looked wasn't that important, so little consideration was given to 'design' as we know it today. We've come a long way since then, which is good.

When I joined CNH Industrial, I had years of industrial design experience, but not one tractor to my name. Coming into a new arena I had to recognise that many others in the team knew much more about specific aspects of tractor design and that a large part of my time should be spent leading, inspiring and guiding. My knowledge of automotive design translates very well to the industrial equipment sector and I believe it is possible to make a tractor as good looking as a car, albeit a different kind of good looks because it's an entirely different type of vehicle.

A prerequisite of all CNH Industrial products is that they must be completely functional and although working in this sector is more challenging than automotive, we are making great advances and have many exciting developments in the pipeline. In my view the farm equipment sector is now where

automotive was in the 1960s. Back then it was on the cusp of a golden age as the industry moved away from square, boxy vehicles to sleek, 'sexy' designs with real consumer appeal. This makes it a great time to be involved in the farm equipment sector and presents a world of opportunity for designers who are part of it.

GOOD DESIGN IS ESSENTIAL

Good design improves and optimises a product's functionality, gives it personality and charm, while making the customer feel good about owning and using it. The iPad is a good example of a product which seamlessly combines good technology, engineering and design.

I am fortunate that the CNH Industrial engineering and branding teams appreciate and value good design. They define the brand and signpost where we can go in terms of design, then we set out our proposal, create a prototype and take it to customers for their input and feedback.

Being a designer, I would love to start every new project with a clean sheet of paper, but commercially reality dictates that rarely are we in that position. Tractors tend to have a longer model cycle than cars and in design terms tend to be more evolutionary, so our job is often to refine and make better what already exists. Tractors are very complex and super-functional, so design changes cannot be solely for aesthetic reasons and there must be a clear purpose behind each one. With each new design we must make them more robust, more cost-effective to manufacturer, more reliable and better able to retain their appearance and value.

Different models bring different design constraints: smaller tractors, for example, are generally more cost-sensitive than larger models. We always push the boundaries with our initial designs, and I think that is important because if we don't then others will. Designs are then refined as they go through feasibility studies, costings and product proving before eventually we arrive at one that everyone involved in the development process signs off as being right for commercial production.

The Case IH autonomous concept vehicle (ACV), a cab-less Case IH Magnum-based row crop tractor that can operate autonomously with a wide range of field implements, was a good example of that process. It was designed mainly at our Burr Ridge Studio near Chicago and originally conceived by Dwayne Jackson, Eric Jacobsthal and Frank Asztalos. The style was intended to be functional but also it needed to create strong visual impact and certainly achieved that. All of us were proud of how it looked and the huge amount of interest it generated throughout the world.

Working on completely new concepts such as the ACV allows our designers much greater freedom to express individuality. Some of the younger team members at CNH Industrial are very futuristic and I like to give them the creative freedom to push the boundaries, because that's where great ideas and designs come from.

Designed elements from the ACV were carried through to the Optum CVX, which became 'Machine of the year 2016'. We wanted to convey feelings of strength, quality and personality so, for example, the headlamps and grill are both stylish and functional, while the profile of the hood provides visual tension and a feeling of power. It is a very good example of how style supports and emphasises the technology within.

Function still comes before form, but one of the most exciting things is how design is now regarded as an essential element in creating brand identity and awareness, as well as in attracting and retaining customers.

Products must have a very definite look, a clear identity that is modern and unmistakable, so we use different methods to achieve that. The lights on our latest tractor models, for example, have a specific function related to how the machine is used, but, as with cars, they help to give the vehicle its personality, charm, family face and recognizable image. A strong brand identity will divide opinion: some people will love it, others won't, but what you cannot be is mediocre.

We take what our customers say very seriously, so before signing-off any new product for production our brand development team takes the feedback and comments from existing Case IH owners and those of other brands on board.

A COLLABORATIVE EFFORT

It is important to stress that our tractors are not only designed by our Industrial Design Team but are fruit of a deep collaboration between Product Specialists, Engineering and Design.

When designing the latest Case IH Maxxum tractors we wanted to establish a clear, fresh identity with inherent visual strength and a fresh face, so design elements were carried over from the ACV and Optum which had been well received. The skill lies in translating the design language of larger models to smaller ones whilst meeting all the engineering parameters, such as ensuring that the tractor's engine has adequate cooling.

Technically, the Maxxum is a very strong design and I think it looks 'cool'. The headlamps have a key role in that and help to give the tractor an attractive 'face', which is a key element of the overall Case IH design language. We are making much greater use of LED lighting, technology which has created a world of possibilities.

When I started in the automotive sector no-one cared much about the car's interior, but now this aspect of the overall design is the focus of enormous attention and the materials used to improve function, appearance, feel and durability are just as important, if not more so, than the exterior.

The same is now happening in the world of tractors. We take very seriously the ergonomics and here the designer's job is to package the results in such a way as to protect and enhance the use and feel. Our designers are working on further improving cab design, functionality, ergonomics and operator environment. Achieving this in primarily off-road industrial vehicles which spend most of their time working in adverse environments is much more difficult, so currently we are evaluating new materials to make cab interiors more interesting, more durable, easier to clean and able to retain their new appearance for longer.

Winning awards means a lot to me and to my team. There are huge opportunities for us to do more and my take-away message is 'keep a close eye on Case IH, because exciting developments are on their way'.

DAVID WILKIE



David Wilkie, Director of the CNH Industrial Design Center, grew up in Glasgow, a tough industrial city in Scotland, but he always yearned to live and work in Italy. David studied at the Charles Rennie Mackintosh, Glasgow School of Art, where he graduated with Honors with a specialization in product design. He then achieved a Postgraduate Master's Degree in Automotive Design at the Royal College of Art in London during an internship at Ogle Design, at a time when the company was involved in building models of the hover cars for the Star Wars movies.

During his career David has worked for some of the leading car manufacturers and automotive design houses in England, France, Switzerland and Italy. After several years with PSA in Paris, in 1988 David moved to Turin, Italy to join Carrozzeria Ghia, one of the most famous Italian automobile design and coachbuilding firms. During his 15 years with the company it was the Advanced Design Studio for Ford Motor Company and responsible for a range of famous automotive brands. There, David was involved in many concepts and responsible for the design of the Ford StreetKa.

In 2003 he joined Stile Bertone as Director of Interior Design and finally became its Design Director. Projects included Barchetta Concept and Alfa BAT 11, along with production interior designs for Alfa and Ferrari. David subsequently worked on electric mobility programs, initially with 'Mindset' in Switzerland and then with Mia Electric, a specialist company based in Cerizay, France which designed and built electric cars.

In 2014, he was appointed Design Director, CNH Industrial. He is now responsible for the design teams at CNH design studios in Turin and Modena in Italy, at Burr Ridge, Chicago in the United States and Lyon, France, which collectively serve 66 CNH Industrial factories and 53 engineering centers around the world.

AN AWARD-WINNING DESIGN



Launched in 2017, the 145hp Maxxum 145 Multicontroller ActiveDrive 8 has achieved a host of awards.

In 2017 it was named 'Agricultural Machine of the Year' by the Institute of Technology and Life Sciences, Warsaw, under the auspices of the Polish Ministry of Agriculture and Rural Development (category: imported machinery).

In 2018 it received the prestigious 'Machine of the Year' title at Agritechnica in Hanover, Germany and achieved the lowest average specific fuel consumption in the Field Work section of the PowerMix test conducted by Deutsche Landwirtschafts-Gesellschaft (DLG), the German Agricultural Society. Using almost 9.5% less fuel than the nearest competitor it became the world's most fuel-efficient four-cylinder tractor.

The 'Tractor of the Year 2019' and 'Best Design 2019' awards recognise the role of the Maxxum 145 Multicontroller ActiveDrive 8 in making farming more profitable and more sustainable by helping to make operations easier, more efficient and more environmentally-friendly.

The tractor is powered by a 4.5-litre, four-cylinder, turbocharged and intercooled FPT engine which meets Stage IV emissions regulations using the Hi-eSCR selective catalytic reduction system. This has a rated power output of 107kW (145hp) at 2200rpm and produces up to 118kW (160hp) with Power Management, the maximum power of 114kW (155hp) being produced at 1800rpm, and 129kW (175hp) with Power Management.

Its new 24 x 24 semi-powershift provides eight powershift steps in each of three ranges. The transmission can also be specified on all Maxxum Multicontroller tractors from 116hp to 145hp as an alternative to ActiveDrive 4, a four-step 16 x 16 40 km/h semi-powershift system, and the continuously-variable 50 km/h CVXDrive continuously-variable (CVT) transmission.

Press releases and photos: <http://mediacentre.caseiheurope.com>

Case IH is the professionals' choice, drawing on more than 175 years of heritage and experience in the agricultural industry. A powerful range of tractors, combines and balers is supported by a global network of highly professional dealers dedicated to providing our customers with the superior support and performance solutions required to be productive and effective in the 21st century. More information on Case IH products and services can be found online at www.caseih.com. Case IH is a brand of CNH Industrial N.V., a world leader in capital goods listed on the New York Stock Exchange (NYSE: CNHI) and on the Mercato Telematico Azionario of the Borsa Italiana (MI: CNHI). More information about CNH Industrial can be found online at www.cnhindustrial.com.

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