

MTA *journal*

Business & News from Automotive World

Year XXVIII - Magazine N° 26 - July 2023

EN 中文



MTA WORLD

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begins a new important expansion

COVER STORY

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MTA Journal
Technical magazine
Year XXVIII, n. 26

Pubblicazione registrata presso il Tribunale di Lodi n. 7 del 16/10/2008

Editorial 主编



These pages and their contents represent our growth. They talk about our products and our customers; they illustrate our future projects and introduce new challenges. This time, our growth is represented by MTA Slovakia, which invests in its fourth and very significant expansion as it prepares to celebrate its 20th year with many innovations, by the incorporation of EDN and by an important investment in a start-up that has already racked up successes in the field of autonomous driving. Our products are still big players in many stories of important customers: automakers, earthmoving machine and tractor manufacturers who have selected them thanks to their reliability and guarantee. Alongside the "traditional" dashboards and power distribution units, MTA is increasingly seen on hybrid or electric cars with high voltage solutions. Technological growth must always march in step with sustainable development, a core value of MTA, translated into the constant attention placed on the environment and the needs of the community, which the Group responds to effectively, thanks to the strong local roots where it operates. Much has been achieved over the years, but new activities are continually being planned, proof of our ongoing commitment to make a real contribution to change.

下面的页面和内容展现了我们的成长历程。它们介绍了我们的产品和客户，展示了我们未来的项目，还有新的挑战。这一次，我们的增长是由 MTA 斯洛伐克推动的，MTA 斯洛伐克进行了第四次大规模扩张，同时正在准备庆祝其 20 周年，并带来许多创新。此外，我们还对一家在自动驾驶领域取得成功的初创公司进行了重要的投资。我们的产品在许多重要客户的故事中扮演着重要的角色，汽车制造商、土方机械和拖拉机制造商都选择了我们的产品，因为我们的产品提供了出色的可靠性和保障。除了传统的仪表盘和电源分配单元，MTA 还越来越多地提供高压解决方案，以应对混合动力或电动汽车的需求。技术增长必须始终与可持续发展同步，这是 MTA 的核心价值。我们不断关注环境和社会需求，以体现这一核心价值。由于在运营地的深厚根基，我们得以有效地回应这些需求。多年来，我们取得了众多成就，但我们依然不断规划着新的活动，始终致力于为改变做出实质性贡献。

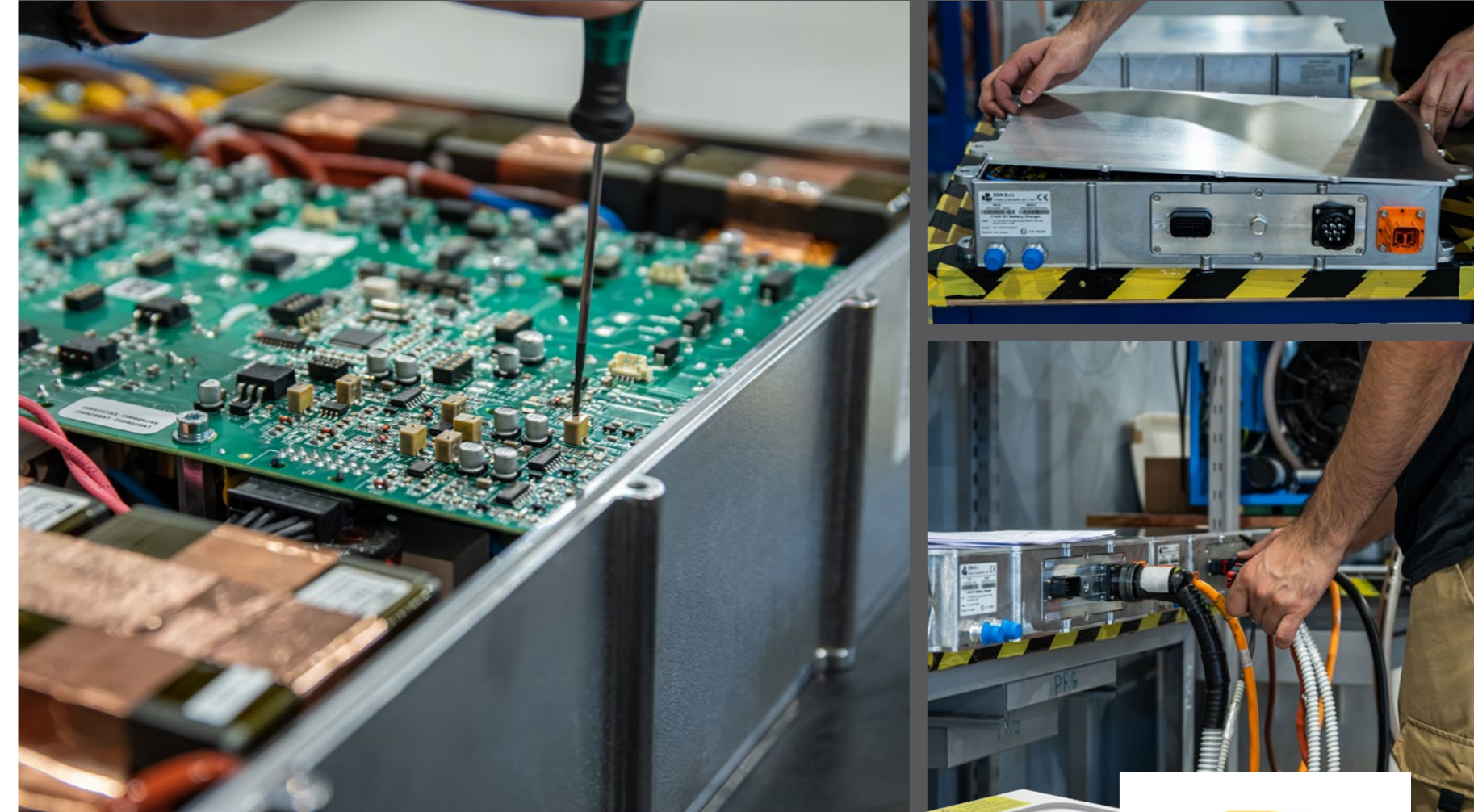
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MTA incorporates EDN MTA 兼并 EDN

Just two years after the acquisition of 80% of the shares (May 2021), the process of merger by incorporation of EDN S.r.l. in MTA S.p.A. has been completed.

In these two years the synergistic work in terms of Research & Development, production footprint, logistics and commercial relations between the two companies has proved successful. The merger of the know-how of MTA and EDN has in fact contributed to strengthening the position of both companies in the power electronics sector and to offering increasingly innovative solutions and supporting manufacturers, on a global level, in the electrification of their vehicles, with an increasingly articulated offer.

Today, with the total incorporation, MTA reinforces its commitment to growth and development of new technologies in order to remain competitive on the market and especially in the field of vehicle electrification.

The EDN brand will be maintained and EDN products, such as the OBC (On-Board Battery Charger) and DC/DC Converter for electric and hybrid vehicles, will continue to be produced in the current headquarters in Cinisello Balsamo (Milan).

2023年7月3日，EDN S.r.l.和MTA S.p.A.的股东大会批准了EDN并入MTA的合并程序。这一过程将于2023年11月1日完成，届时MTA将收购EDN的资产并接管其法律关系。

MTA 于2021年5月收购了EDN 80%的股份，立即带来了预期的优势。

事实证明，在研发、生产、物流和商业关系方面的协同工作是成功的。MTA和EDN的专业知识合并有助于加强两家公司在电力电子行业的地位，提供越来越创新的解决方案，并以更明确的报价支持全球制造商的汽车电气化。

如今，随着公司的全面合并，MTA加强了对新技术增长和开发的承诺，以保持竞争力。

EDN产品，如用于电动和混合动力汽车的车载电池充电器和DC/DC转换器，将继续在位于Cinisello Balsamo (米兰)的现有总部以EDN品牌生产。

MTA Slovakia, about to celebrate 20 years in business, kicks off a major new expansion 即将迎来 20 周年庆典的 MTA 斯洛伐克启动重大的全新扩建计划

2004

December 2004: MTA Slovakia is established in Bánovce nad Bebravou in the Trenčín region, 150 km from Bratislava, where the first assembly lines are installed in a rented factory.

2008

With the purchase of a 22,000 m² plot, the area where the site is located today, plans are already in place for the future, which will see the construction of a factory shed with adjacent office building in 2008 for a total of 3,300 m² of indoor space and 110 people employed.

2011

In 2011 the number of employees reaches 160, and the site undergoes a major expansion involving the duplication of production and warehouse space.

2016

In 2016, with the purchase of an additional 40,000 m², a new production unit was built with an elegant office building in keeping with the design that distinguishes MTA's headquarters. This new facility is mainly dedicated to the plastic molding department, which houses 23 presses ranging from 160 t to 450 t, and also allows for an increase in the assembly process area, which has 34 automatic and semiautomatic lines and 2 press-fit lines for PCB assembly.

2004

2004 年 12 月: MTA 斯洛伐克在距离布拉迪斯拉发 150 公里的特伦钦地区的 Bánovce nad Bebravou 成立, 并在租用的工厂内安装了首批装配线。

2008

通过购买 22,000 m² 的土地, 即今日工厂所在地, 我们已经开始为未来做准备, 计划于 2008 年建设配有办公楼的厂棚, 总计 3,300 m² 的室内空间, 雇佣 110 名员工。

2011

2011 年, 员工人数增至 160 人, 大规模的扩建让生产和仓储区面积比过去大了一倍。

2016

2016 年, 再次购买 40,000 m² 土地用于建立新的生产区域和雅致的办公大楼, 均符合 MTA 总部的设计标准。这座新工厂主要用于注塑部门, 其中包括 23 台吨位从 160 吨至 450 吨不等的冲压机, 同时也增加了装配区域, 内设 34 条自动化及半自动化生产线和 2 条用于 PCB 装配的插针生产线。

€56 million

2023 sales (budget)
2023 年销售额 (预算)

374

Total employees
员工总数

Total investment in the last 5 years
过去 5 年的总投资额

€13,5 million

Percentage of women and men employees
男女员工性别比例

38% Men
女性占

62% Women
男性占

2023

Today we have started new works for the construction of a structure that will allow us to further expand the current production area (+2,400 m²), build a lab, locker rooms, and cafeteria with adjacent kitchen and a conference room.

Due to increasing customer sales and in parallel with increasing product complexity, MTA Slovakia needed to create new production space in part to be dedicated to an EPA area. In fact, more and more power distribution units are designed with the PCB that can only be assembled in a protected area.

The site will also have a lab with the latest equipment, which will enable it to carry out major product testing independently with significant time savings, thus offering a better service to customers.

As always, the focus is also on workers' wellbeing. In fact, the new facility will include a new cafeteria with kitchen, where 150 meals a day will be served, an infirmary, and a training room.

2023

现在, 我们已启动新的工程项目, 将建造配有一个实验室、更衣室, 以及配有厨房的食堂和会议室的全新建筑, 以进一步扩大当前生产区域 (+2,400 m²)。

由于客户销售额的增长以及产品复杂度的提升, MTA 斯洛伐克需要创造新的生产空间, 其中将划分部分区域为 EPA (静电保护区)。实际上, 越来越多的配电装置设计为带有 PCB 从而只能在保护区域内进行组装。

该工厂还将设有一个配备最新设备的实验室, 能够独立进行大规模的产品测试, 可以大幅节省时间, 为客户提供更好的服务。

我们始终重视员工福祉。事实上, 新工厂将配备带有厨房的新食堂, 每天提供 150 份餐点, 以及一个医务室和培训室。

A strategic site in the heart of the European automotive industry, constantly evolving to better serve vehicle manufacturers

作为位于欧洲汽车行业心脏地带的战略性工厂, 我们始终致力于为汽车制造商提供更好的服务



Reduction of CO₂ emissions and greenhouse gases

减少二氧化碳和温室气体排放

Energy assessment is extremely important not only for reducing consumption and saving on costs as a result, but especially for mitigating environmental impact.

With the purpose of lowering every type of impact and in compliance with the standard UNI EN ISO 14064-1, MTA took into consideration the effects of climate change that fall within Scope 1 and Scope 2 of the GHG Protocol, the international standard that developed a methodology jointly with institutions, companies and entities around the world to determine, measure, recognize and reduce the emissions of greenhouse gases released into the atmosphere.

Among the many improvements that we constantly research and put into action, we can mention some of the most significant.

The cooling system for the molds will be optimized through the use of efficient NH₃ chillers, thereby eliminating fluorinated gases. Moreover, the increased performance of the coolant delivery system to the molds results in a heat recovery for use in the air conditioning system.

Thanks to the recent substitution of compressors with new-generation machines that satisfy the same demands for air under pressure with a much lower power consumption, we obtained a significant compression heat recovery that will be transferred to the heat pumps for heating purposes. With the introduction of a dedicated absorption chiller (which uses heat to make cold), we are able to produce cold water for production systems and the air conditioning.

In the non-production areas the use of reversible heat pumps for summer and winter air conditioning improves efficiency and eliminates the direct emission of CO₂ deriving from methane boilers.

能源评估不仅有助于减少能源消耗和节省成本，还能减轻环境影响。

MTA 遵循 UNI EN ISO 14064-1 标准，以降低各种类型的环境影响。针对气候变化的影响，我们采用了温室气体核算体系 (GHG Protocol) 的范围 1 和范围 2，这一国际标准由世界各地的机构、公司和实体共同制定，旨在确定、测量、识别和减少排放到大气中的温室气体。

我们不断研究和尝试了许多改进措施，总结出以下几点重要举措。

通过使用高效的 NH₃ 冷却器优化模具的冷却系统，我们消除了含氟气体的使用。同时，模具冷却剂的性能提高，实现了用于空调系统的热量回收。

我们最近用新一代机器替换了压缩机，获得了显著的压缩热回收，这些热能将被转移到用于供热热泵。我们引入了专用吸收式冷却器（利用热量制冷），为生产系统和空调生产冷水。

在非生产区域，我们为夏季和冬季空调安装了可逆热泵，提高了效率，并消除了由甲烷锅炉产生的直接 CO₂ 排放。

PHOTOVOLTAIC SYSTEM

And with the same goal to lower energy consumption and CO₂ emissions, the photovoltaic system at the Codogno site was recently expanded with approximately 1200 new solar panels, added to the 2600 already existing. The photovoltaic system currently produces a total of 1600 kW/peak energy.

The Rolo site, with 1300 kW/peak energy produced by the photovoltaic system, is autonomous in the summer months.

For the other sites of the Group similar plants are being planned, which will allow the utilities to be powered in a sustainable manner.

光伏系统

同样，为降低能源消耗和 CO₂ 排放，我们最近为科多尼奥工厂的光伏系统增加了约 1200 个新的太阳能电池板，而在此之前已有 2600 个电池板。目前，该光伏系统总共产生 1600 kWp 的能源。

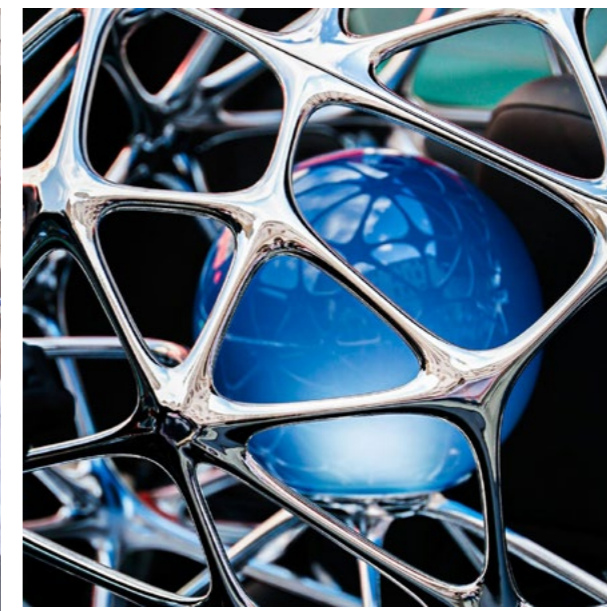
此外，罗洛工厂通过光伏系统产生的 1300 kWp 的能源可以在夏季月份自给自足。

对于集团的其他工厂，我们也在规划类似的能力，日后将实现以可持续的方式为设施供电。





The Maserati MC20 Cielo presented at the 1000 Miglia
在 1000 Miglia 上展示的 Maserati MC20 Cielo



MTA invests in the future with AS.CAR.I MTA 投资 AS.CAR.I, 着眼未来

➔ www.ascari.ai

Last May our company announced its role as lead investor in AS.CAR.I S.p.A. a spin-off company created by the research team MOVE of the Milan Polytechnic University, one of the principal research groups in the world working in the field of automation and automotive control systems. The company's aim is to develop and commercialize a software stack for the implementation of autonomous vehicles, with focus on co-driving on a track and autonomous driving in critical situations or emergency maneuvers.

"MTA's role as an investor in this company, with focus on a technology that will help to enable future mobility, confirms our view when it comes to innovation," said Antonio Falchetti, CEO of our Group at the time of signature. "The developments and results that will be achieved by AS.CAR.I regarding the big issue of autonomous driving will be exciting also for MTA, who stands out for the design of important systems such as HMI & ECU for manufacturers of cars, motorcycles, farm machinery and earthmoving machines".

Along with MTA S.p.A. and other private investors, two major players in the automotive sector have also invested in AS.CAR.I: Motor Valley Accelerator, the mobility start-up accelerator of the national network Cassa Depositi e Prestiti, and Streparava S.p.A.

去年五月, MTA 宣布成为 AS.CAR.I S.p.A. 的主导投资者。AS.CAR.I 是由米兰理工大学 MOVE 研究团队创建的一家分拆公司, 该团队是自动化和汽车控制系统领域工作的全球主要研究团队之一。该公司的目标是开发一套用于实现自动驾驶车辆的软件并完成商业化, 重点关注车路协同驾驶以及在关键或紧急情况下的自动驾驶。

集团的首席执行官 Antonio Falchetti 在签字仪式上表示: "MTA 作为这家公司的投资者, 关注的是能够推动未来出行的技术, 这符合我们的创新理念。AS.CAR.I 在自动驾驶这个领域上所取得的发展和成果, 让 MTA 感到振奋, 因为 MTA 的主要业务就是为汽车、摩托车、农业机械和土方机械制造商设计 HMI 和 ECU 等重要系统。"

除了 MTA, 汽车行业的两个主要参与者也投资了 AS.CAR.I: Motor Valley Accelerator (国家网络 Cassa Depositi e Prestiti 的移动加速初创公司) 以及 Streparava S.p.A.

POLIMOVE ARTIFICIAL INTELLIGENCE, RECORD HOLDER

AS.CAR.I S.p.A. was launched thanks to the experience gained by PoliMOVE, the autonomous racing team of MOVE led by Professor Sergio Savaresi. The artificial intelligence created by the PoliMOVE team attained stunning results by winning both races of the Indy Autonomous Challenge (IAC) held on the Las Vegas Motor Speedway, marking a world record for speed on the straight (309.3 km/h) for a car driven by artificial intelligence.

The IAC is the first challenge in the world for self-driving racing cars. Competitors in the race were the most advanced racing cars driven by AI software developed by nine teams from 19 universities from around the world. The final stage of the IAC was held at the CES (Consumer Electronics Show), the international consumer electronics trade show held yearly in Las Vegas since 1967.

MOVE recently took part in the project 1000-MAD (1000 Miglia Autonomous Drive) of the Milan Polytechnic University with a Maserati MC20 Cielo equipped with all the technological components required to make it autonomous. Taking part in the race allowed MOVE to experiment a self-driving car on segments of public roads in different contexts and with widely varying characteristics.

The vehicle operated in total autonomy on these segments, though with a supervisor on board in observance of traffic laws.

PoliMOVE 人工智能, 记录保持者

AS.CAR.I S.p.A. 的成立得益于 PoliMOVE 的经验, 这是由 Sergio Savaresi 教授领导的 MOVE 自动驾驶赛车队。PoliMOVE 团队创建的人工智能在印第安纳波利斯自动驾驶挑战赛 (IAC) 的两场比赛中均取得了惊人的成绩, 创下了由人工智能驾驶车辆在直线上的速度世界纪录 (309.3 公里/小时), 本场比赛在拉斯维加斯汽车快车道上举行。

IAC 是全球首个自动驾驶赛车挑战赛。参赛车辆由全球 19 所大学的九个团队开发的 AI 软件驾驶, 代表了当前最先进的技术水平。IAC 的最后阶段在消费电子展 (CES) 上举行, 这一国际消费电子产品贸易展览会自 1967 年以来每年在拉斯维加斯举行。

MOVE 最近参加了米兰理工大学的项目 1000-MAD (1000 Miglia Autonomous Drive), 参赛车辆为 Maserati MC20 Cielo, 装备了所有实现自动驾驶所需的技术组件。参加比赛使 MOVE 有机会在公共道路的多种环境和各种特殊路段上试驾自动驾驶车辆。

车辆在这些路段上全程自动驾驶, 但按照交通法规, 车上配有一名监管员。

MTA for the electrified modular platform e-CMP

MTA 为电动模块化平台 e-CMP 研发的控制单元

For the platform aimed at the B and C segments, the Stellantis Group has recently introduced a new electric powertrain able to ensure greater advantages in terms of performance to its cars such as the Opel Mokka Electric, Jeep® Avenger BEV and DS 3 E-TENSE, as well as PEUGEOT E-2008 and PEUGEOT E-208.

For these various applications, the Group has entrusted MTA with the development and production of a control unit for high voltage distribution (400 V) and utility protection. This has the purpose of powering various systems inside the car such as the on-board charger, the battery pre-heater and the air conditioning compressor.

针对 B 级和 C 级平台，Stellantis 集团最近推出全新电力动力系统，能够帮助 Opel Mokka Electric、Jeep® Avenger BEV、DS 3 E-TENSE，以及 PEUGEOT E-2008 和 PEUGEOT E-208 等汽车实现更高性能优势。

为了满足这些不同的应用需求，集团已经委托 MTA 研发并生产用于高压配电（400 V）和设施保护的控单元。该控制单元的主要功能是为汽车内部的各种系统进行供电，如车载充电器、电池预热设备和空调压缩机。

The control unit developed and produced by MTA for high voltage distribution

由 MTA 研发并生产的高压配电控制单元



PEUGEOT E-208

Opel Mokka Electric

DS 3 E-TENSE

Jeep® Avenger BEV

PEUGEOT E-2008





Renault Austral

A 48 V unit for Renault and Dacia Mild Hybrid vehicles 为 Renault 及 Dacia 轻度混合动力车设计的 48 V 装置

An important project developed and produced for the Renault Group makes our company an increasingly important player in the field of vehicle hybridization: a power distribution and utility protection unit for the 48 V architectures of the manufacturer's Mild Hybrid range. The first car equipped with this technology was Renault Austral, followed by Dacia Duster, Renault Kangoo, and Dacia Jogger to name just a few. These models combine a 48 V electric motor with a gasoline or diesel engine.

The unit we developed is located in the engine compartment and is connected on one side to the 48 V battery and on the other side to the Belt Starter Generator (BSG), a system that replaces the starter motor and alternator in Mild Hybrid vehicles.

The product is supplied in three variants that differ in the number of MidiVal 48 V clinched fuses, manufactured by us, and in the orientation of the connectors.

The 48 V unit is produced at our MTA Morocco plant, where plastic molding and assembly take place, and is then sent directly to Renault.

This supply further consolidates our company's longstanding partnership with the manufacturer, which over the years has led to the development of many units intended for traditional electric architectures as well as the new frontiers of hybridization and electrification.

我们为 Renault 集团开发和生产的重大项目，将我们公司在汽车混合动力技术领域的地位推向新的高度：为制造商轻度混合动力车系的 48 V 架构提供配电和设施保护装置。首款配备此项技术的汽车是 Renault Austral，其后包括 Dacia Duster、Renault Kangoo 以及 Dacia Jogger 等车型。这些车型将 48 V 电动机与汽油或柴油发动机结合使用。

我们研发的装置位于发动机舱内，一侧连接至 48 V 电池，另一侧则连接到 BSG（皮带驱动起动发电机），该系统可以在轻度混合动力车中替代启动电机和交流发电机。

该产品有三种型号，各种型号的不同之处在于我们制造的 MidiVal 48 V 紧箱保险丝的数量以及两个连接器的方向，汽油版的连接器方向一致，而柴油版的连接器方向则为 90°。

我们在 MTA 摩洛哥工厂生产 48 V 装置，在那里完成注塑和组装后，将直接运送到 Renault。

这次供应进一步巩固了我们与该制造商长期以来的合作关系，多年来，这种伙伴关系已经促使我们为传统电气结构以及混合动力和电气化新领域开发出许多产品。

The partnership with the Bavarian manufacturer has been renewed 我们已成功延续与巴伐利亚制造商的合作关系

The first delivery of units for electrical power distribution and fuse protection for the BMW 7 Series dates back to around 10 years ago.

Today, MTA's partnership with the Bavarian car manufacturer has led to the development of new projects and the supply of 3 new control units for a large number of models of the Group.

Two units are equipped with busbars and are based on the same concept from a few years ago, with new fuses with compact dimensions that allow space advantages.

The third control unit is realized with a hybrid busbar/PCB solution which makes it a very versatile product. An interesting peculiarity of this product is the presence of a noise absorber on the PCB which houses the relay connected to the rear window wiper. This component was specifically developed by MTA for BMW who wanted it to reduce the switch noise of the relay itself.

约 10 年前，我们首次为宝马 7 系提供电力配电和熔断保护装置。

如今，MTA 与巴伐利亚汽车制造商的合作关系已催生新项目的开发，为集团的大量车型供应 3 款全新控制单元。

其中两个单元采用母线设计，在延续几年前设计理念的同时采用尺寸紧凑的新保险丝，空间优势由此得以体现。

第三个控制单元则采用了混合母线/PCB 解决方案，使其具备极高的适用性。此产品的独特之处在于 PCB 上有一处噪音吸收器，其内部包含与后窗雨刮器相连的继电器。MTA 专为宝马研发该组件，其主要目的是降低继电器开关时产生的噪声。



For the BMW M5, the manufacturer found in one of our off-the-shelf products the right solution for its requirements, without the need for a new development. We are talking about a module that houses a MegaCompact, a fuse with reduced dimensions and weight, exclusive from MTA.

对于宝马 M5，制造商在我们的现成产品中找到了完美匹配其需求的解决方案，从而无需开发新产品。我们所指的是一款内含 MegaCompact 的模块，这是一款尺寸和重量都有所降低，由 MTA 独家提供的保险丝。



Elegant and easily configurable: the new dashboard for SAME and DEUTZ-FAHR tractors

优雅、易于配置：SAME 和 DEUTZ-FAHR 拖拉机全新仪表盘

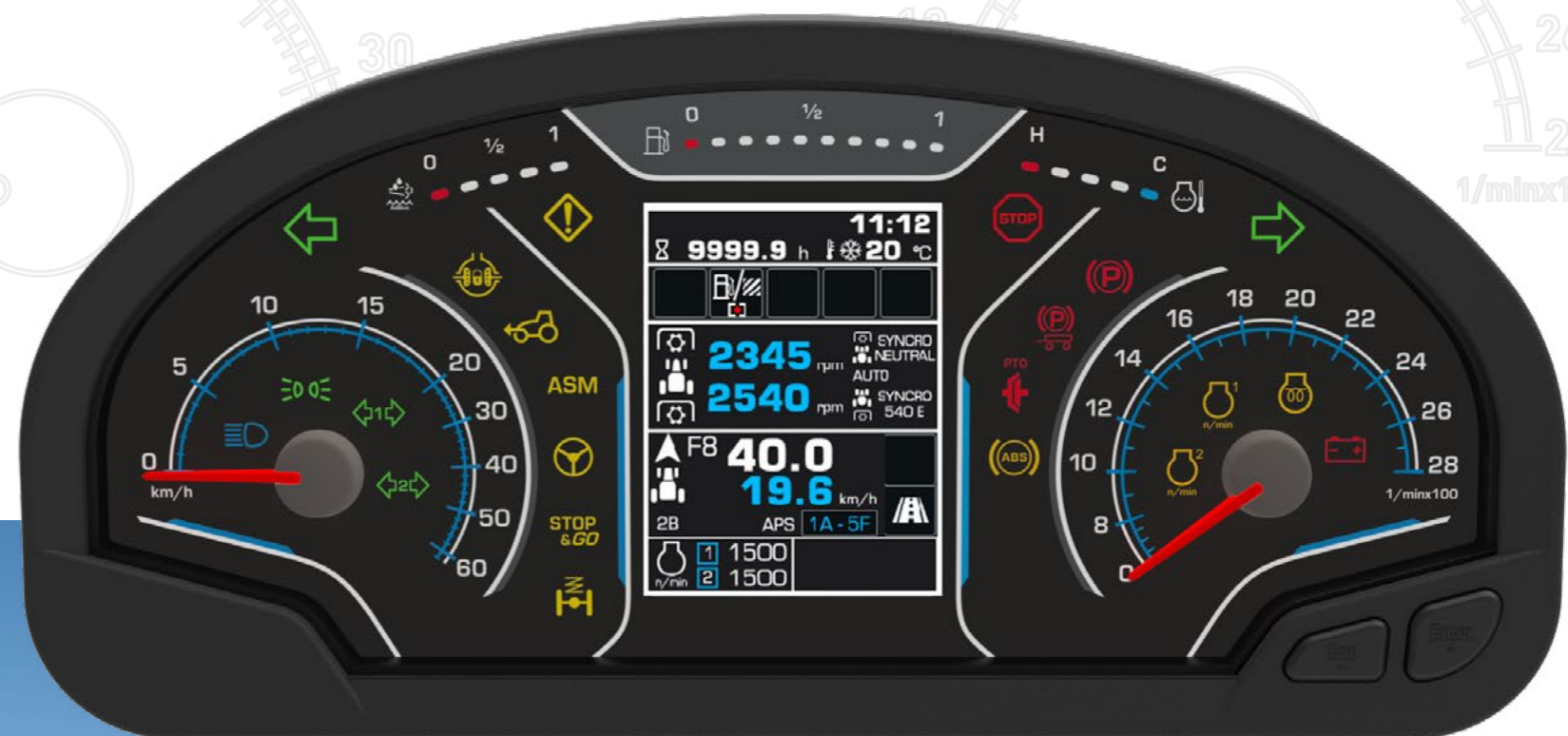


Same Frutteto

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DEUTZ-FAHR 6G Series



3.5" TFT color display
3 LED bars and 2 analog pointers
IP65 rated

3.5 英寸 TFT 彩色显示屏
3 个 LED 灯条和 2 个模拟指针
IP65 防护等级

MLC is the new dashboard we've developed for several open field and specialized farm tractors under the brands SAME and DEUTZ-FAHR. Design of the dashboard, while respecting the forms and sizes of our previous product, was totally revamped thanks to a joint effort between GFG Style, MTA and SDF that led to a modern and intuitive HMI.

At center is the "heart" of the user interface, the new 3.5" TFT color display with a layout configurable by SDF at the end of the assembly line by sending CAN messages. This allows the TFT to be customized according to the tractor where the dashboard is mounted on, while using a single software application. The TFT features a set of menus, selected with two buttons, that can display different data pertaining to the engine, transmission and operation of the machines.

On either side of the TFT there are 25 tell-tales and 2 analog pointers indicating speed and rpm. This type of display is still popular in the farming industry as regards these two values. An important new feature are the 3 LED bars at the top to indicate the level of urea, fuel and coolant.

MLC 是我们为 SAME 和 DEUTZ-FAHR 品牌下多款开放式田间和专业农用拖拉机开发的全新仪表盘。在 GFG Style、MTA 和 SDF 的共同努力下，我们对仪表盘的设计进行了全面的改造，在沿用之前产品形状和尺寸的基础上，打造了直观现代的人机界面。

用户界面的“心脏”是全新的 3.5 英寸 TFT 彩色显示屏，其布局可由 SDF 在装配线的末端通过发送 CAN 消息进行配置。这使得 TFT 可以根据安装仪表盘的拖拉机进行定制，同时使用单一的软件应用程序。TFT 具有一组菜单，可显示引擎、传动系统和机器操作相关数据，并可通过两个按钮进行选择。

除了在两侧有两个模拟指针指示速度和转速外，TFT 还设有 25 个指示灯，这种显示方式在农业行业依然大受欢迎。重要的新特性是顶部的 3 个 LED 灯条，用于指示尿素、燃油和冷却液的水平。

The dashboard for SAME and DEUTZ-FAHR tractors has two interfaces to the vehicle's CAN network. Both are used to communicate parameters from the vehicle's control units and to configure the source used for the information at the end of the assembly line. The main interface is also used for the dashboard software updates.

This validates the extreme versatility of the instrument which can be used for different applications.

This major supply of MLC which, alongside the previous dashboard, covers the whole medium-low range of SAME and DEUTZ-FAHR tractors, confirms our solid relationship with the Treviglio-based multinational, which has introduced important electric and electronic developments over the years.

SAME 和 DEUTZ-FAHR 拖拉机的仪表盘有两个接口连接到车辆的 CAN 网络。它们都用于从车辆的控制单元传递参数，并在装配线的末端配置信息的来源。主接口也用于仪表盘软件的更新。

上述功能体现了该仪表盘的高度灵活性，可以用于不同的应用。

MTA 大批量提供 MLC，结合之前的仪表盘，覆盖了 SAME 和 DEUTZ-FAHR 拖拉机的整个中低级范围，证实了我们与这家总部位于特雷维利奥的跨国公司的稳固合作关系，该公司多年来在电力和电子发展方面有卓越的表现。

The Giotto instrument panel for the innovative Bobcat T7X compact track loader 创新型 Bobcat T7X 紧凑型履带式装载机中应用Giotto 仪表板

Introduced last year by Doosan Bobcat, the Bobcat T7X is the world's first all-electric compact track loader, winner of two Innovation Awards at CES 2022. This machine is fully battery powered and has been designed to be more productive thanks to its electric drive and propulsion; quieter with high performance torque and more powerful than equivalent diesel-hydraulic track loaders, all while eliminating carbon emissions.

For displaying the machine parameters, Doosan Bobcat is utilizing our Giotto off-the-shelf display thanks to the ideal dimensions and aesthetics that align with the futuristic lines of the T7X. MTA supplied the display with basic software and the customer, thanks to the MTA Studio® tool, developed its application to meet the specific needs of the loader.

The instrument panel screen is subjected to anti-fingerprint, anti-reflection and other treatments that eliminate the air between the glass and the plastics, thus ensuring maximum visibility in every situation. Finally, the materials and design solutions adopted ensure an IP66 degree of protection, as well as high resistance to vibrations and extreme temperatures.

由 Doosan Bobcat 于去年推出的 Bobcat T7X 是全球首款全电动紧凑型履带式装载机，在 2022 年 CES 创新奖中已斩获两项大奖。该机器全电池驱动，得益于其电驱动和推进系统，实现了更高水平的生产力；其静音运行及高性能扭矩比相同规格的柴油液压履带式装载机更为强大，同时彻底消除了碳排放。

在显示机器参数方面，Doosan Bobcat 采用了我们的 Giotto 成品显示屏，其理想的尺寸和美学设计与 T7X 的前卫外观完美契合。MTA 为显示屏提供了基础软件，并且客户借助 MTA Studio® 工具，根据装载机的特定需求开发了其应用程序。

仪表板屏幕经过防指纹、防反射等处理，消除了玻璃与塑料之间的空气，以确保在各种环境下的最大可见度。最后，采用的材料和设计方案具备 IP66 等级的防护能力，以及对振动和极端温度的高度耐受性。



An Idea for Antonio Carraro Antonio Carraro 选择 Idea 仪表盘

More and more vehicle manufacturers are finding the right product for their needs among our selection of off-the-shelf dashboards and displays. This was the case for Antonio Carraro, a company specializing in the production of tractors for agriculture, which recently decided to partner with us. Its choice fell on Idea, a dashboard for the new Tony V 8900, an original specialized tractor whose superior technology makes it perfect for working in narrow rows.

Idea is a small, very sturdy IP66-rated dashboard. Information from the tractor or any connected equipment is displayed via a 7" TFT beside which we find 18 LED warning lights, whose symbols and colors have been customized for Antonio Carraro through a dedicated screen printing.

Thanks to the user-friendliness of the MTA Studio® tool and the constant support of our electronic technicians, Antonio Carraro implemented the basic software we provided in order to adapt its features to the specific operational needs of the vehicle.

越来越多的汽车制造商在我们现有的众多仪表盘和显示器中找到了适合他们需求的理想产品。Antonio Carraro 公司就是其中的典型，这家专注于农用拖拉机生产的公司最近选择了与我们建立合作关系。Antonio Carraro 公司最终选择我们的 Idea 仪表盘，用在全新 Tony V 8900 上，这款专业拖拉机凭借其卓越的技术性能，非常适合在狭窄的田间地头进行作业。

Idea 仪表盘体积小巧，坚固耐用，并具有 IP66 级防护。拖拉机或任何已连接设备的信息都将通过 7 英寸的 TFT 显示屏进行展示，旁边配备的 18 个 LED 警示灯，经过专门的丝网印刷工艺，能够为 Antonio Carraro 提供定制的标志和颜色。

得益于用户友好工具 MTA Studio® 和我们电子技术人员的持续支持，Antonio Carraro 成功使用了我们提供的基础软件，以适应车辆的特殊操作需求。



Maximum ruggedness
IP66
7" TFT and 18 LED warning lights

最大强度
IP 66
7 英寸的 TFT 和 18 个 LED 警示灯



A control panel for New Holland's specialized tractors

New Holland 专业拖拉机的控制面板



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New Holland, a leader in the design of specialized tractors, is currently using one of our Switch Control Panels to control certain vehicle functions via the CAN network. The Switch Control Panel is equipped with 10 push-buttons - used in the specialized tractors to manage end-of-field maneuvers or to control the suspension or front and rear hitches - and status LEDs to show the actual activation of the controls.

The Switch Control Panel was designed by our R&D in keeping with the requirements of New Holland, a brand of CNH Industrial, respecting the design of other in-vehicle control panels in order to adhere to the line's family feeling. It is designed with an IP54 rating to operate in the hostile environments typical of the agricultural world and is distinguished by its small size that facilitates its placement in the cab next to the armrest.

The compact size, versatility, and ease of installation of the Switch Control Panel have been highly valued by CNH Industrial, so much so that the manufacturer has asked our company to further develop the product for use on future applications. The module upgrade will require changes in the hardware while maintaining the same geometry, with a new keypad and processor, to include some safety features.

A variant of the 10-push-button Control Panel is also available in our off-the-shelf offer. The product, designed in both the horizontal and vertical versions, will come with a neutral keyboard which can be completed with laser printing of the icons requested by the customer. The keyboard, like most of our OTS electronic products, can be managed with our proprietary software MTASudio®.

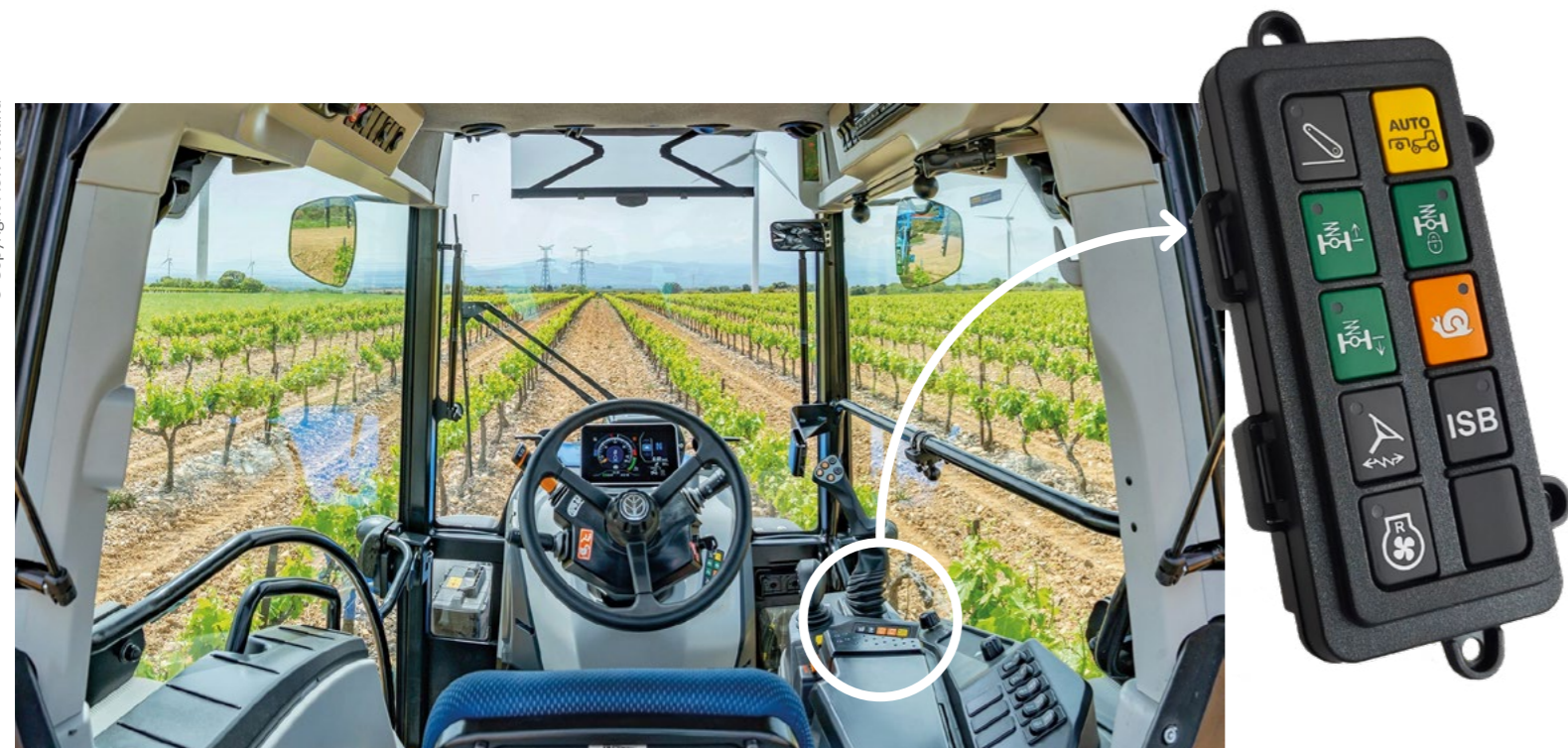
New Holland 是专业拖拉机设计领域的领军品牌，目前正在通过 CAN 网络使用我们的开关控制面板来控制车辆的特定功能。

该开关控制面板配备 10 个按钮--在专业拖拉机中用于管理田间操作或调节悬挂系统及前后拖挂装置，并设有状态 LED，实时反馈各项控制的启动情况。

开关控制面板由我们的研发部门进行设计，严格符合 CNH Industrial 旗下品牌 New Holland 的需求，保持与车内其他控制面板的设计一致，以实现产品线的整体协调。控制面板具有 IP54 等级防护，能在农业领域的恶劣环境中稳定运行。其小巧的体积便于安置在驾驶舱的扶手旁。

CNH Industrial 对控制面板的紧凑尺寸、多功能特性和易安装性给予高度评价，并要求我们进一步改进此产品，以满足未来的应用需求。模块升级将需要在保持原有的几何形状的同时更换硬件，包括新的键盘和处理器，以引入全新的安全功能。

我们现成的产品线中也提供了 10 键控制面板的型号。此产品有水平和垂直两种版本，配有可按客户需求进行图标激光打印的中性键盘。这款键盘与我们大多数 OTS 电子产品一样，可以使用我们的专有软件 MTASudio® 进行管理。



MTA for the safety of 100% electric trucks

MTA 致力于保障全电动卡车的绝对安全

MTA takes an important step into the American truck market and the electrification field. A well-known German American manufacturer of commercial vehicles has in fact awarded our company for the supply of a Pyro module to be delivered to heavy and medium zero emission trucks.

Mounted under the dashboard in the cabin, the Pyro module is mainly composed of a battery switch and a squib-type connector and has the function of disconnecting the electrical system in the event of an accident. In fact, if the airbag is triggered, the squib connector linked to it immediately activates the battery switch.

The module is supplied with lid and already assembled. Great attention was paid by our company to ensure high resistance to vibrations, shocks, corrosion and chemical agents, in accordance with the specific characteristics required by the customer during the design phase.

For this supply, the winning was the synergistic action between our two sites in North America, MTA USA and MTA Mexico. In fact, our front office in Chicago gave constant commercial technical support to the manufacturer, while MTA Mexico is where the module is assembled.

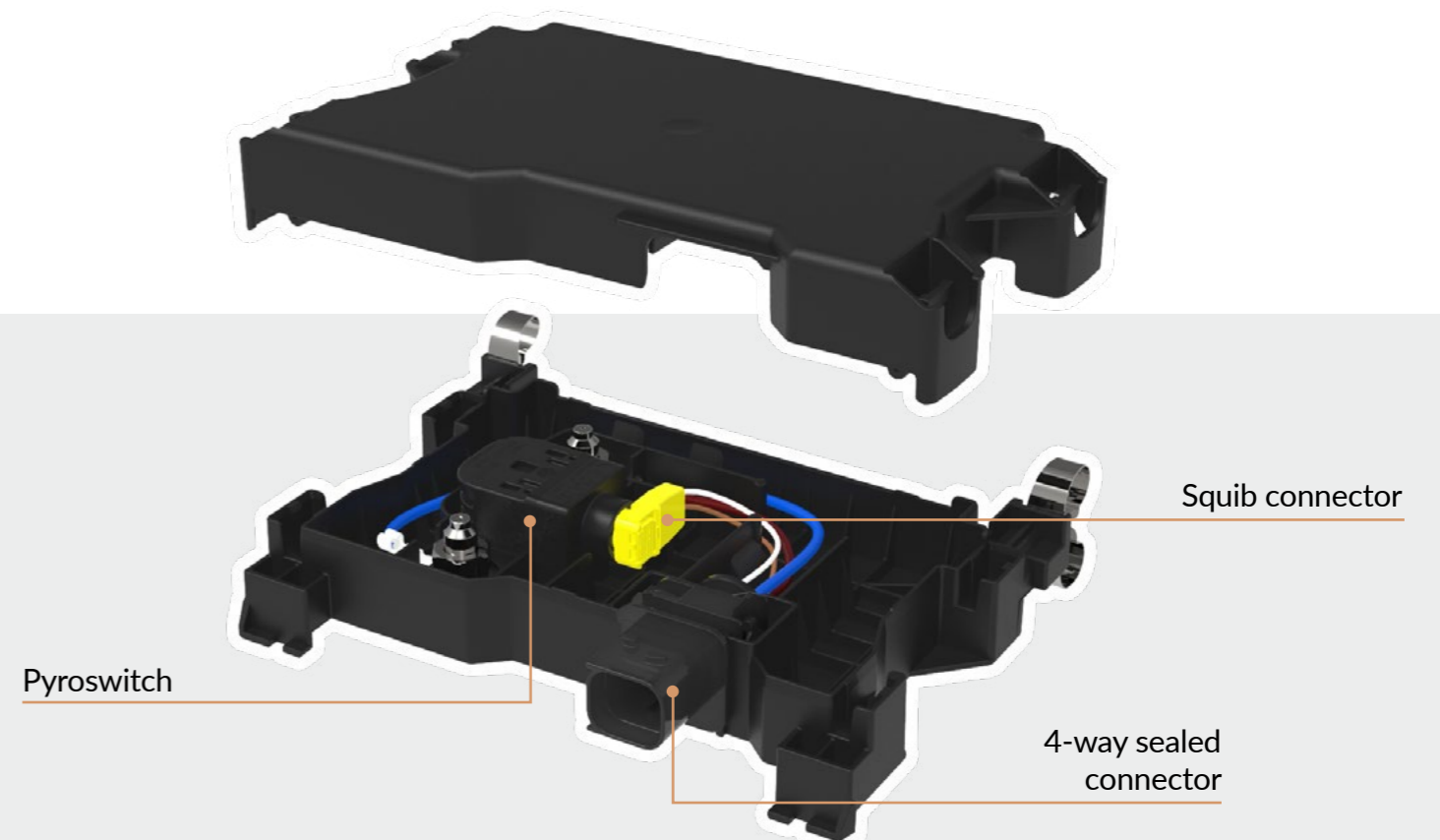
MTA 向美国卡车市场及电气化领域迈出了决定性的一步。一家知名德美商用车制造商实际上已经挑选了我们的公司，为其中型及重型零排放卡车提供火焰模块 (Pyro module)。

火焰模块主要由电池开关和引信型连接器 (squib-type connector) 组成，位于驾驶舱的仪表盘下方，其主要职责是在发生事故时立即断开电气系统。事实上，只要安全气囊被触发，与其连接的引信型连接器便会立刻启动电池开关。

该模块配有盖子，并已预先组装完毕。我们公司非常注重保证其耐振动、冲击、腐蚀和化学试剂的高度耐受性，以便满足客户在设计阶段的特殊需求。

这次供应成功的关键在于我们在北美的两个工厂——MTA 美国和 MTA 墨西哥的紧密协作。事实上，芝加哥的前端办公室为制造商提供持续的商业和技术支援，而模块组装则是在 MTA 墨西哥进行的。

A module to disconnect the electrical system in the event of an accident
在紧急事故中断开电气系统的模块



Pyroswitch

Squib connector

4-way sealed connector

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