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MTA WORLD

MTA Morocco – Production launched at full speed

COVER STORY

Smart dashboard for e.GO Life – The fun, practical, affordable electric car

MTA Brasil

MTA Electronics – Italy

MTA Mexico

MTA Morocco

MTA India

MTA Poland

10 SITES
IN THE WORLD

www.mta.it/en/sites

Headquarters – Italy

MTA Slovakia

MTA USA

MTA China

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主编

The Journal has reached its 20th edition and MTA is celebrating 65 years since its founding in 1954. The size of the company today and the product portfolio that has expanded to include electronic products are proof of the great commitment and diligence of each employee, everyone for his own task. Today there are 1,400 of us, we work in 10 different sites, but all with the same goal that has made MTA a reliable partner for all its customers.

Also in this Journal, as in the previous editions, we're pleased to talk about some of our successes. You'll find six case histories for agricultural vehicles and trucks, but also for electric and sports cars, as well as six products developed by our electromechanical and electronic Research and Development department which is always studying solutions that can meet the specs of an extremely demanding market. Finally, we must mention the conclusion of works and the start of operations at our latest site: MTA Morocco. Just over a year after construction started, take a look for yourself at the current state of the building.

本刊已走到第 20 期，MTA 也即将迎来自 1954 年成立以来的第 65 周年庆。
无论是公司今日之规模，还是现已包含电子类产品的产品组合之丰富程度，无不是我们全体员工全力投入和辛勤付出的最好证明。现如今，我们有 1400 人工作在 10 个不同的工厂，但我们大家有着同一个目标，那就是让 MTA 成为所有客户坚实可靠的伙伴。

同往期一样，这里我们也要介绍一下我们既往取得的一些成绩。
其中，有六个案例是关于农用车辆和卡车以及电动汽车与赛车的，此外还有机电与电子研发部门所开发的六款产品，始终致力于研究满足苛刻市场要求的解决方案。
最后，不得不提到的是我们最新基地的竣工和启动：MTA 摩洛哥。开工仅一年多的时间，你来看看现在厂区的样子。

Maria Vittoria Falchetti
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MTA Morocco
Production launched at full speed
MTA 摩洛哥
全速生产

In July 2017, works began on our eighth foreign site. Exactly one year later – perfectly on schedule (see Journal no. 17) – the plant was completed and a little later MTA Morocco began production with the assembly of electromechanical units supplied directly to the main European auto manufacturers, as well as to the cable assemblers who have been operational in Morocco for some time.
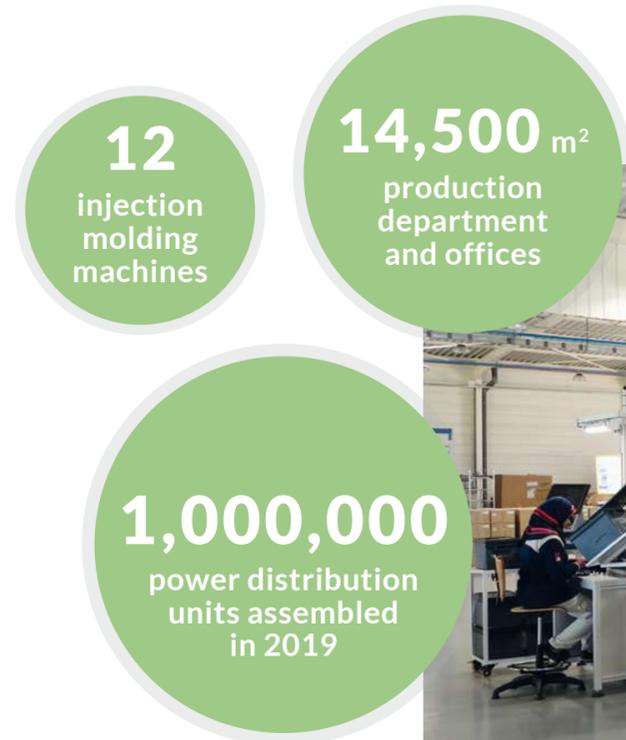
Like all our foreign sites, stylistically MTA Morocco is in line with our headquarters, built according to principles of energy sustainability with an eye to the well-being of employees. The company's organization – 140 employees strong – is complete and complex. The facility is autonomous in all its functions, from sales to quality, lab research, electronic R&D, production engineering, process quality, production, and logistics.

2017 年 7 月，我们的第八家海外工厂开始建设。正好是在一年后工厂完美按计划竣工（请参见第 17 期杂志），不久之后，MTA 摩洛哥就开始生产与组装机电单元，并直接供给欧洲的主要汽车制造商和在摩洛哥运营了一段时间的电缆装配商。

与我们所有的海外工厂一样，MTA 摩洛哥将与总部保持同样的风格，秉持能源可持续性与关注员工福利的原则建立。公司共有 140 名员工，涉及方方面面，分类非常复杂。该工厂实现了从销售到质量、实验室研究、电子研发、生产工艺、流程质量、生产和物流的所有功能的完全自主。

Certified IATF 16949 and ISO 9001 and by our main customers, the facility is located in Kenitra in the Free Trade Zone on a plot of land measuring 23,000 m² (but the purchase of a second plot of the same size has already been planned for 2020), 14,500 m² of which occupied by production and an office building. The production department has 7 automatic and 20 semi-automatic lines. This year more than 1,000,000 electromechanical units of different models and for different OEMs have already been assembled. There are 12 presses in the molding department with a tonnage ranging from 80 to 450 tons. The 2020 investment budget includes funds for additional assembly lines and molding presses.

工厂取得IATF 16949 和 ISO 9001 认证，并获得了我们主要客户的认可，其位于自由贸易区的盖尼特拉市，占地 23,000 平方米（但我们计划将于 2020 年再次购买同等大小的地块），其中 14,500 平方米为生产和办公大楼。生产部门拥有 7 条自动化生产线和 20 条半自动化生产线。今年已经为不同 OEM 装配了超过 1,000,000 台不同型号的机电单元。模具部门配备了 12 台 80 吨至 450 吨之间的压铸机。2020 年的投资预算中包含用于增加装配线和压模机的资金。

12 injection molding machines

14,500 m² production department and offices

1,000,000 power distribution units assembled in 2019

The Moroccan headquarters also houses a lab, today equipped to check electromechanical production and in the near future it will also monitor electronic production. Some electronic projects are under development, both hardware and software, followed by a team of 10 engineers who are already working on a customizable TFT display for off-highway applications and a system for an intelligent power distribution within the vehicle.

Contacts made with the University of Rabat and with MAScIR (Moroccan Foundation for Advanced Science, Innovation & Research) are crucial for the company's R&D, as they will allow us to create a department of excellence, also drawing on expertise external to MTA.

摩洛哥总部还设立了一个实验室，目前已经装备齐整，可以检查机电产品，在不久的将来，还将有能力监测电子生产。目前，部分电子项目尚处于发展当中，硬件和软件都有，并由一个 10 名工程师组成的团队跟进，该团队正在为非公路应用开发定制化的 TFT 显示屏，以及用于车辆内部的智能配电系统工作。

此外，我们还与拉巴特大学和 MAScIR（摩洛哥先进科学、创新和研究基金会）建立了联系，这对公司的研发至关重要，我们可以借此力量建立卓越人才队伍，同时为 MTA 充分汲取外部知识。

Here comes the *Idea*
The new customizable dashboard

Idea 来袭
全新可定制仪表盘

7" TFT glued to the front glass using optical bonding

Portrait and landscape versions

Capacitive touch screen

7英寸TFT显示屏采用光学粘合技术粘合到屏幕的前玻璃上

纵向和横向版本

电容式触摸屏

The family of off-the-shelf electronic products that can be customized using MTA Studio® software has grown with the addition of Idea. Idea is a dashboard designed for the specific needs of the off-highway sector, also usable as a display and available in both portrait and landscape versions.

Despite its small size (291 x 139 x 45 mm), Idea is a very robust device with IP66 protection and can be powered with 12 V and 24 V, making it perfect for heavy-duty applications. The parameters of the machine or of the equipment connected to it are displayed on a 7" TFT glued to the front glass using optical bonding. In addition to a mineral glass cover with anti-fingerprint and anti-scratch surface, this process ensures excellent visibility in all conditions. In order to ensure maximum operational safety, around the TFT we find 18 high-efficiency LED indicators, 14 of which have diagnostic functions. 8 lights have a redundant control circuit and 2 lights can be externally controlled via 2 digital inputs, thus isolating them from any malfunction of the dashboard. Symbols and light colors can also be customized, asking our company to produce personalized screen printing. On the side there are 4 rubber buttons designed to activate features selectable via software by the customer, always with a view to maximum customization. Also noteworthy is the presence of 1 video input for connection to an analog camera, a connector for BroadR-Reach Ethernet, to a possible digital camera, and Bluetooth Low Energy to allow the display of information from specialized apps.

现货供应电子产品系列可以利用 MTA Studio® 软件进行定制，随着 Idea 的加入，这个系列获得了迅速发展。Idea 是一款专为满足非公路领域的特殊需求而设计的仪表盘，还可以作为显示屏使用，提供纵向和横向两种版本。

尽管尺寸小巧 (291 x 139 x 45 mm)，Idea 却是一款非常坚固耐用的设备，不仅提供 IP66 等级的保护，还支持 12 V 和 24 V 电源，是重载级应用的理想之选。这款产品或与其连接的设备的参数将显示在 7 英寸的 TFT 屏幕上，TFT 采用光学粘合技术粘合到屏幕的前玻璃上。除了具有防指纹和防刮擦表面的无机玻璃罩之外，这种工艺还可以确保在所有条件下都能提供出色的可视性。为了尽可能保障操作的安全性，我们在 TFT 周围安装了 18 个高效 LED 指示灯，其中14 个具有诊断功能，8 个配备冗余控制电路，2 个可以通过 2 位数字输入进行外部控制，从而能够将它们与仪表盘的任何故障隔离开来。符号和指示灯的颜色也支持客户定制，客户可以要求我们公司进行个性化丝网印刷。仪表盘侧面配有 4 个橡胶按钮，用于激活客户通过软件选择的功能，我们始终着眼于将定制程度最大化。值得注意的是，仪表盘还配有一个视频输入端口用于连接模拟像机，一个宽带以太网连接器用于连接数码摄像机，另外还有蓝牙低能耗功能，用于显示专业应用程序发出的信息。

Curved dashboard
Beautiful, ergonomic, and high performance
曲面仪表盘
美观、人体工程学与超高性能集于一身

> **Improved legibility**
>
> **Customizable design on request**
>
> **Cutting-edge mechanics and hardware/software platform**

> **提升易读性**
>
> **可根据要求定制设计**
>
> **尖端机械和硬/软件平台**

The current trend in the design of vehicle dashboards is oriented towards devices with highly customized geometries – even curved – with large dimensions and advanced graphics. A curve makes it easier for designers to create vehicle interiors with a greater aesthetic appeal than in the past, which enhances the vehicle and integrates perfectly with it. Ergonomics also benefits, improving legibility by maintaining the optimum distance between the image and the driver's eye.

Our company, which in recent years has developed extensive expertise in the production of dashboards and displays for the automotive market, is ready with its own version of curved dashboard that can be customized on request, with shapes ranging from the so-called "corner cut" to a "free shape", destined to represent the technology's state of the art in the coming years.

The dashboard that we are able to provide is a turnkey product with cutting-edge mechanics and hardware/software platform, elements necessary to ensure the high performance required by the final product. Indeed, it was designed to be fully customized for the vehicle it is installed in, adapting to and bringing out its personality.

As far as hardware and software are concerned, the platform is very advanced, with multicore processors that manage different operating systems: Linux for the management of 2D and 3D graphics and Autosar for the management of vehicle logics. The platform can also support other external displays, like the central stack and head-up.

The electronics development team focused in particular on safety and cybersecurity. The hardware/software platform is safety-oriented and modular to implement ASIL A and B (Automotive Safety Integrity Levels) as per the ISO 26262 standard. On the other hand, cybersecurity is implemented both at a software and hardware level with specific modules aimed at verifying the authenticity and integrity of the functions programmed in the instrument panel.

当下的车辆仪表盘设计趋势以面向大尺寸和高级图形的高度定制几何图形（甚至是弯曲图形）设备为主。曲线使设计师更容易创造出比以往更具美感的车内装饰，不仅增强了车辆的性能，更能与之完美融合。人体工程学带来的益处也不小，通过使驾驶员眼睛到图像间保持最佳距离来提升易读性。

近年来，我们公司在为汽车市场生产仪表盘和显示屏方面积累了丰富的专业知识，已经准备好推出自己的曲面仪表盘版本，并可根据客户要求进行定制，从所谓的"多边形切角"到"自由形状"均可实现，能够引领未来数年的技术浪潮。

我们的仪表盘是一款全包式产品，配备尖端机械和硬件/软件平台，这些都是确保最终产品的高性能所必需的要素。事实上，这款产品专门针对其要搭配的车辆设计，不仅能够适应车辆风格，更能彰显其个性。

就硬件和软件而言，该平台非常先进，搭载了多核处理器，能够管理不同的操作系统：管理 2D 和 3D 图形的 Linux 以及管理车辆逻辑的 Autosar。该平台还支持外接其他显示屏，如中央堆栈和平视显示器。

电子开发团队特别注重安全性和网络安全性。硬件/软件平台是以安全为导向的模块化平台，严格按照 ISO 26262 标准实现了 ASIL A 和 B（汽车安全完整性水平）。换句话说，通过特定的模块验证仪表板编程功能的真实性和完整性，从软件和硬件两个层面实现网络安全。

Smart dashboard for e.GO Life
The fun, practical, affordable electric car

面向 *e.GO Life* 的 "*Smart*" 仪表盘
经济实用且趣味十足的电动汽车

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An important player in the new mobility market, e.GO mobile – a German-based manufacturer of electric cars – has decided to rely on our Smart dashboard for its e.GO Life, a 4-seated electric city car offered in 3 different battery-versions, differing in power and range features.

Our dashboard was chosen by the OEM thanks to its compactness, modern lines and the ability to support 2.5D graphics similar to those of videogames; all features that perfectly meet the modern and high-tech style of this innovative car. MTA Studio®, our software for the customization of electronic devices, was equally decisive for the choice, thanks to its flexibility that allowed e.GO Mobile engineers to tailor the device to the specific needs of the application.

德国电动汽车制造商 e.GO mobile 是新兴移动市场的重要参与者，该公司已决定在 e.GO Life 产品上使用我们的 "Smart" 仪表盘，e.GO Life 是一款 4 座电动城市汽车，提供 3 种不同的电池版本，分别具有不同的功率和续航能力。

凭借其小巧紧凑的外形、极具现代化的线条设计，以及对与视频游戏类似的 2.5D 图形的支持，我们的仪表板获得了 OEM 的青睐。所有功能都完全符合这款创新汽车的高科技现代化风格。MTA Studio® 是我们用于定制电子设备的软件。凭借其支持 e.GO Mobile 工程师根据特殊应用需求定制设备的超高灵活性，为我们又添一大决定性的竞争优势。

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We have asked directly Daniel Franze, Senior Manager Electric/Electronic in e.GO mobile to explain us how our software together with dedicated electronics team has supported e.GO during the development phase.

"MTA Studio" said Daniel Franze "met all our needs to create a functional and visually appealing dashboard. With MTA Studio in our hands we have a tool which is easy to learn and enables us to create a customized User Interface. At first, I want to mention the easy to use management tools to define and set up the inputs or outputs whether we are talking about the CAN Interface or the physical I/O, analog or digital. All necessary parameters can be edited in a Graphical User Interface and the resulting code is generated automatically. This has the advantage that a change in a parameter does not result in a complete redo of a certain part of the code but just in a reconfiguration in the Graphical User Interface of MTA Studio. The task creation and management were also fast to manage with all the necessary parameters in one place. Another important thing is the User Interface itself. The path which was chosen here by the creators of MTA Studio is WYSIWYG (What You See Is What You Get). This makes the creation of contents easy, even for less experienced people. We were thus able to create the complete dashboard including setting menus in one device which is controlled by an external CAN device. All relevant data are also provided from external sources and could be embedded fast and easy.

During the complete development we kept close in touch with the development team of MTA Studio to include more specific functionalities in the BSP library such as for example a global alpha value for the graphic elements to implement fading effects with one single image. If any questions occurred the response was really fast.

All in all I'm really happy that we went with MTA and had the opportunity to create our own dashboard software to have the flexibility and a fast response to new requirements".

我们曾直接询问 e.GO Mobile 电气/电子高级经理 Daniel Franze，我们的软件和专门的电子团队如何在开发阶段为 e.GO 提供支持。

"MTA Studio"，Daniel Franze 说，"满足了我们打造功能强大、视觉美观的仪表盘的全部需求。有了 MTA Studio，我们就有了一款趁手工具，不仅易于学习，还使我们能够打造定制化用户界面。首先，我要说一下易于使用的管理工具，它们可以用来定义和设置输入或输出，无论是 CAN 接口还是物理 I/O，无论模拟还是数字均不在话下。我们可以在图形用户界面中编辑所有必要的参数，并自动生成结果代码。这样做的好处是，即使参数改变也不会导致某部分代码需要完全重写，只需要在 MTA Studio 的图形用户界面中重新配置即可。对于任务创建和管理，我们同样也可以在一个地方快速管理所有必要参数。另一个非常重要的因素就是用户界面本身。MTA Studio 设计师的理念是 "所见即所得"。这种理念使得内容创建变得非常简单，即使是缺乏经验的用户也可以轻松搞定。因此，我们能够借此打造完整的仪表盘，包括在一台由外接 CAN 设备控制的设备中的多个设置菜单。所有相关数据均来自外部资源，能够快速、便捷地嵌入。

在整个开发过程中，我们与 MTA Studio 开发团队密切联络，着力在 BSP 库中纳入更多特定功能，例如图形元素的全局 alpha 值，以便在单个图像上实现渐变效果。不管有任何问题出现，他们的回应都非常迅速。

总而言之，我非常高兴我们选择了 MTA，有机会打造我们自己的仪表盘软件，能够灵活快速地响应新需求"。

> "
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>
> Daniel Franze (Senior Manager Electric/Electronic at e.GO)

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The display Smart for X-BOW, the super sports car by KTM
面向 *KTM* 超级跑车 *X-BOX* 的"*Smart*"显示屏

© Copyright KTM Sportmotorcycle GmbH

X-BOW, the super sports car by KTM and the first four-wheeled model in its history is now equipped with the Smart dashboard. Starting this year, in fact, KTM has decided to adopt our off-the-shelf compact instrument cluster featuring square and modern lines which remind the modern smartphones and perfectly fit with the futuristic style of the car. KTM received the first prototypes in 2018 together with MTA Studio® tool, our proprietary software that allowed the company to rapidly and independently develop the HMI interface. We also supplied MTA Gate®, a specific tool designed for EOL (end of line) department which allows software updates and the quick and safe configuration of certain vehicle parameters, like for example the language, for additional customization.

Alexander Rothböck, responsible of electric and electronics development at KTM commented the choice of Smart: "We have found in Smart a ready-to-use, cost-effective product which has required a low initial investment in terms of costs and programming effort. Moreover, MTA Studio allowed us to integrate the CAN line in a very intuitive and rapid way and the graphics development has been simple as well, without requiring expert programming skills".

"The automation offered by MTA Gate scripts," concluded Mr Rothböck, "worked well and was easy to set up for reprogramming the dashboard".

X-BOW 是 KTM 出品的超级跑车，也是 KTM 的首款四轮车型，现在，这款跑车配备了"Smart"仪表盘。事实上，KTM 已经决定从今年起采用我们的现货供应紧凑型仪表组，其特点是方形外观和极具现代化的线条设计，让人不禁想到现代智能手机，并且与这款跑车的未来主义风格十分契合。KTM 在 2018 年收到了第一款原型，同时还有我们的专用软件，MTA Studio® 工具，能够支持该公司快速独立地开发 HMI 界面。我们还提供了 MTA Gate®，这是一款专为 EOL（生产线末端）部门设计的特殊工具，能够实现软件更新和语言等特定汽车参数的快速安全配置，从而实现进一步的定制化。

KTM 电气及电子产品开发部门的负责人 Alexander Rothböck 如此评价关于对 Smart 的选择："Smart 是一款随时可用且经济实惠的产品，对成本和编程方面的初始投资要求很低。并且，MTA Studio 还让我们能够以一种非常直观、快速的方式集成 CAN 线，图形开发也变得非常简单，无需专业编程技能即可完成"。

"MTA Gate 脚本的自动化，"Rothböck 先生总结道，"表现出色，并且能够轻松设置，对仪表盘进行重新编程"。

The graphics development has been simple as well, without requiring expert programming skills.

图形开发也变得非常简单，无需专业编程技能即可完成。

Alexander Rothböck (Responsible for E&E Development at KTM)

Photographer: Joel Kernasenko

Başak chooses Revo Plus for its new tractor
Başak 选择 *Revo Plus* 用于其全新拖拉机产品

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We are very grateful to the MTA team in Turkey for their assistance during the 5120's development.

我们十分感谢土耳其的MTA团队在5120开发过程中的帮助。

Zafer Ozbalaban (Director of R&D Department at Başak)

Başak's new flagship tractor, the 5120, is a clear demonstration of how the Turkish manufacturer has broadened its sales horizons, competing in international markets. In fact it is a top-of-the-range, sophisticated machine with modern lines that stands out for its illustrious partnerships with leading European component manufacturers. For the dashboard Başak decided to work with our company, choosing Revo Plus from the range of electronic products that can be customized with the MTA Studio® software. It's a modern dashboard with a large 4.3" color TFT, numerous indicator lights and analog indicators, personalized screen printing and high levels of protection: IP66 for the front, IP65 for the back. Başak's research and development team then customized the software to adapt it to the tractor's specific needs, working in concert with MTA staff in Turkey and even participating in dedicated training sessions.

Zafer Özbalaban, director of Başak's research and development department, shared his opinion of the Revo Plus in an interview with our magazine's editorial staff: "The MTA dashboard is very useful for keeping the operator informed about all the functions of the 5120 thanks to custom symbols and alerts, and we really liked that the image of the tractor is displayed when the dashboard is turned on. We are very grateful to the MTA team in Turkey for their assistance in choosing the functions to display on the dashboard. They always responded promptly to our requests, often coming to visit us during the 5120's development".

Başak 的全新旗舰款拖拉机 5120 清楚地展示了这家土耳其制造商是如何拓宽销售视野、扩大其在国际市场上的竞争力的。事实上，这是一台拥有现代化生产线的顶级精密机器，并且其生产线还与领先的欧洲零部件制造商建立了卓越的合作伙伴关系。在仪表盘方面，Başak 决定与我们公司合作，并从一系列可以利用 MTA Studio® 软件进行定制的电子产品中选择了 Revo Plus。这是一款现代化仪表盘，配备高品质 4.3 英寸彩色 TFT、多个指示灯和模拟指示器，并且采用个性化的丝网印刷且具备较高等级的防护：正面 IP66，背面 IP65。Başak 的研发团队随后定制了该软件，使其能够适应拖拉机的特殊需求，并与土耳其的 MTA 人员合作，甚至还参加了专门的培训课程。

Başak 研发部门主管 Zafer Özbalaban 在接受我们杂志编辑采访时分享了他对 Revo Plus 的看法："由于可以定制符号和警报，MTA 仪表盘能够时刻让操作员知晓 5120 的全部功能情况。另外，仪表盘打开时还会显示拖拉机图像，我们非常喜欢这个功能。我们非常感谢土耳其的 MTA 团队，他们在我们选择显示在仪表盘上的功能时提供了诸多帮助。他们不仅能够及时响应我们的要求，在 5120 开发期间还经常前来拜访我们，了解情况"。

A 24 V dashboard for Anadolu Isuzu Trucks
Anadolu Isuzu 卡车采用的 24 V 仪表盘

An electromechanical unit for Renault diesel cars
用于雷诺柴油车的机电单元

After several OE wins, Revo Plus has gained a new customer with its supply to Anadolu Isuzu who has in fact decided to adopt the dashboard for the NPR10, NPR3D and TORA models, 3 trucks produced in Turkey for local and European markets and intended to be used for waste disposal.

For this supply, the dashboard has been adapted to 24 V to meet the heavy-duty requirements of these applications.
Revo Plus is an off-the-shelf high-level dashboard featuring a central 4.3" color TFT and 32 telltales. This feature has been crucial for the customer's choice because it has allowed the displaying of different important information. First of all the one related to the new Advanced Engineering Braking System (AEBS), now mandatory on trucks with more than 3.5 tons, together with other information coming for example from the brake system pressure monitoring, the rear-view camera and the diagnostic system.

Other important reasons why Anadolu Isuzu chose Revo Plus are the fact that the dashboard was able to work harmonically with the rest of the vehicle systems, given that the trucks were already in production, and the ability of our resident commercial and technical staff. In fact, they were able to support Anadolu Isuzu during all the phases of product development, until the start of production. Anadolu Isuzu was able to easily tailor the software according to its specific needs through MTA Studio® tool and to complete it in less than one year.

成功经过几轮 OE 角逐后，Revo Plus 赢得了一家新客户 Anadolu Isuzu，后者决定将此仪表盘用于 NPR10、NPR3D 和 TORA 这 3 款土耳其生产的卡车车型中，最终这些卡车将在当地和欧洲市场销售，用于垃圾处理工作。

此次供应，仪表盘采用了 24 V 设计，满足此等应用的重载要求。
Revo Plus 是开箱即用式高端仪表盘，具有 4.3" 彩色 TFT 屏和 32 个指示器。这个特点是客户做出决策的关键，因为借此可以显示各种不同的重要信息。第一个与新的高级紧急制动系统 (AEBS) 相关的信息，现在这已经是超过 3.5 吨卡车的强制性要求，此外还有其他来自如制动系统压力检测、后视摄像头和诊断系统等的信息。

Anadolu Isuzu 之所以选择 Revo Plus，还有其他重要原因，一个是此款仪表盘能够与车辆系统的其余部分协调配合，因为毕竟卡车已进入量产，另一个则是得益于我们常驻商务与技术员工的非凡能力。事实上，他们在量产之前都一直在支持 Anadolu Isuzu，经历了产品开发的各个阶段。借助 MTA Studio® 工具，Anadolu Isuzu 能够轻松地根据自己的需求进行软件定制，并在 1 年之内就全部完成。

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The first electromechanical unit assembled in our new Kenitra site was for Renault, an important OEM that we have been working with for over 20 years.

It's a high-volume product designed to protect the fan of the engine cooling system for diesel engines in a wide range of cars including Renault Scénic, Talisman, Kadjar, Espace, and Mégane.

Designed to be compact to take up as little space as possible in the engine, the unit is distinguished by the presence of 2 of our MidiVal 80 A fuses linked to the bus bar.

The body of the unit and its cover are overmolded with a silicone gasket that ensures an IP5K3 degree of protection. This guarantees excellent performance even in off-road vehicles. The temperature range that the unit can operate in is between -40 ℃ and +85 ℃.

我们全新盖尼特拉市工厂装配的第一台机电单元就是为与我们已经合作了 20 多年的重要的OEM客户雷诺制造的。

这是一款大量生产的产品，旨在保护各种汽车中柴油发动机的发动机冷却系统风扇，适用于雷诺 Scénic、Talisman、Kadjar、Espace 和 Mégane 等诸多车型。

这款机电单元设计紧凑，在发动机中只占据较少空间，2 根连接到母线的 MidiVal 80 A 保险丝是其特色所在。

其主体及外盖采用硅胶垫圈包覆，能够确保 IP5K3 等级的保护。即使用于越野车辆，也能保证出色性能。安全运行的温度范围是 -40 ℃ 至 +85 ℃。

Kamaz launches the K5 family of trucks
Kamaz 发布 K5 系列卡车

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Kamaz, the acronym for Kamskiy Avto Zavod or "Kamskiy car factory," an important Russian truck manufacturer since 1976 that is also known for its numerous victories in the Paris Dakar, has launched the first new truck of the K5 family, the 54901.

Kamaz plans to expand its market share by offering a product that stands out for its design, ergonomics, and driving comfort, equipped with a new 450 hp engine and a 12-speed gearbox.

For this new family of trucks, MTA developed a unit together with the customer. The unit will be supplied directly from our Indian plant in Pune, where the molding and assembly take place. To satisfy the different uses of the trucks it is installed in, the unit can be set up with different types of fuses from our production – up to five MidiVal fuses (from 30 A to 120 A) and two 125 A MegaVal fuses – while power distribution is ensured by a bus bar in copper alloy. The unit has an IP67 degree of protection thanks to a pre-assembled silicone gasket placed between the body and the unit's cover, as well as gaskets and relative retainers with different sections. The lid is secured by a co-molded closure and five latches with acoustic verification, which preload the lid against the gasket. Steel compression limiters are located in the three installation holes to reduce loss of tightening torque due to vibrations and heat. It is also equipped with a jump-start plug to allow direct access to the current supplied by the battery.

Kamaz 即 Kamskiy Avto Zavod 或 "Kamskiy 汽车工厂"，是俄罗斯一家重要的卡车生产商，成立于 1976 年，并以在巴黎达喀尔拉力赛中获得多次成功而知名，目前该厂商发布了其 K5 系列的首款新卡车 54901。

Kamaz 计划提供一款搭载全新 450 马力引擎和 12-速变速箱且无论是在设计、人体工程学还是驾乘舒适度方面都出类拔萃的产品，以此进一步扩展市场份额。

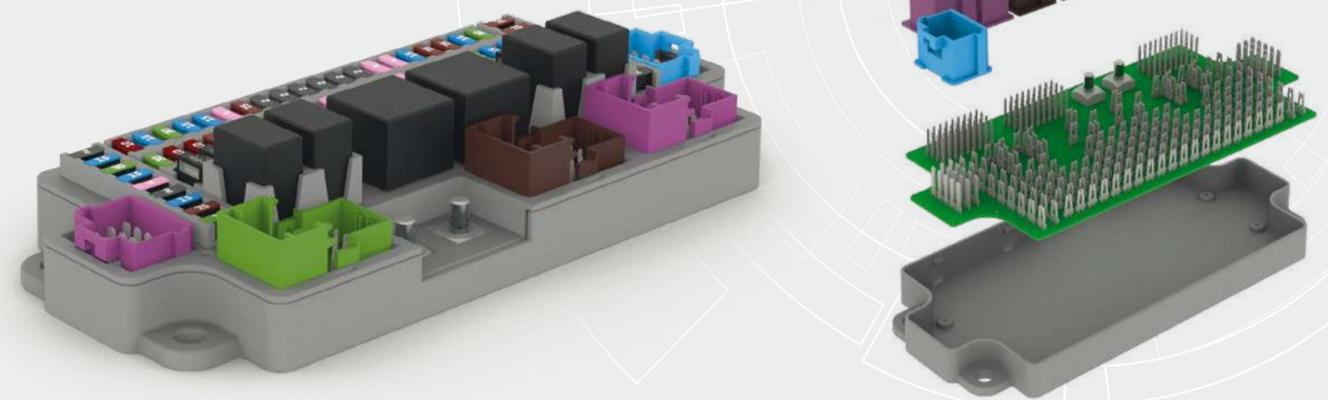对于此新的卡车系列，MTA 与客户一同开发了一个单元。此单元将直接从我们在印度普纳的工厂供应，模塑和组装工作均在这一工厂完成。为满足卡车的不同用途，此单元可采用我们生产的不同类型的保险丝，最高为五个 MidiVal 保险丝（从 30 A 到 120 A）和两个 125 A MegaVal 保险丝，同时配电通过铜合金母线进行。此单元达到 IP67 防护等级，单元主体和盖子之间采用预装配的硅胶衬垫，同时衬垫与相应的保持机构采用不同的截面结构。盖子通过联合模塑的外壳和五个锁销固定，均经过声学检定，将盖子预装载在衬垫上。钢制压缩限位器置于三个安装孔中，可减少因振动和发热而造成的紧固扭矩损失。同时还配备了一个跳线跨接启动插头，可直接接入电池的电流。

C-MEC 138
Cabin-Modular Electrical Center with PCB
C-MEC 138
带 *PCB* 的发动机舱模块化电子中心

For many years MTA has been a leading company in the field of electrical protection for the automotive market, and in particular for the off-highway sector. MTA has expanded its traditional range of wired products to include the alternative with PCB, a technology that allows it to perform the same functions as wired units with the advantage of optimizing cables, facilitating assembly in production lines, and direct supply to the manufacturer which can install the unit directly on the car.

The MEC 97 unit with PCB made with press-fit, a technology that MTA has chosen as an alternative to welding, was designed for the engine compartment and has been available for a couple of years now. For installation in the cabin the C-MEC 138 is now available, designed and built with features similar to the MEC 97, i.e., with press-fit technology and with a high level of customization.

The C-MEC 138 is ideal for new applications and for those who already use our five-way frame, with which it is perfectly interchangeable.

The C-MEC 138 has a rational design, including a base that always remains the same and the connectors detached from the customizable mask. Where the customer needs to change only the fuses he will keep the mask, the connectors and the existing PCB. Where the contents remain the same but there is a need to change the scheme, with a very small investment and very short lead times the PCB alone will be changed. If both the PCB and the contents do not correspond to the customer's needs, just the PCB and the mask can be redesigned. The changing of the latter, not having integrated connectors, will require a relatively simple mold, with reduced costs and time.

This first cabin compartment unit with PCB will surely be followed by others with different dimensions according to the market's demands, maybe even developing solutions that are interchangeable with the other MTA frames already used by customers.

多年来，MTA 一直是汽车市场中电气保护领域的领先企业，尤其是越野车细分市场。MTA 已对传统的有线产品进行了扩展，加入了 PCB 替代选项，借此技术，不但可执行与有线单元相同的功能，而且还具有优化电缆、方便生产线上组装和直接供应给整车厂并由其直接安装到汽车上等诸多优势。

带 PCB 的 MEC 97 单元采用压合技术制造，这是 MTA 选择的替代焊接的一种技术，用于发动机室并已经供货几个年头了。用于发动机舱的 C-MEC 138 现在开始供货，旨在提供与 MEC 97 同等的功能，即采用压合技术并提供高度的定制能力。

C-MEC 138 可理想地用于新应用，以及原来使用我们五路框架的既有应用，可与之完全互换。

C-MEC 138 采用了合理的设计，底座仍保持与原来相同，连接器可从遮罩上插拔，而且遮罩支持定制。如果客户仅需要更换熔断器，则遮罩、连接器和既有的 PCB 都可以保留原来的。如果内容不变而仅需要更换电子方案，则更换 PCB 即可，投资小，速度快。如果 PCB 和内容物都不符合客户的需求，仅需重新设计 PCB 和遮罩。对于后者的更换，由于没有集成的连接器，仅需相对简单的模具，帮助节省成本与时间。

根据市场的需求，在这第一款带 PCB 的发动机舱用单元之后，肯定会有其他尺寸的产品推出，甚至可能开发与客户已经在使用的其他 MTA 框架可彼此互换的解决方案。

news
快讯

Compact BDU with terminal
带端子的紧凑型 BDU

This die-cast battery terminal in Z axis is available in both right and left versions. It is very compact in size, making it versatile and easy to place. The cover is tethered to the body to ensure it will not be displaced. This BDU accommodates 1 MegaVal fuse, is certified by stringent tests and procedures and is already used by some truck manufacturers.

这款 Z 轴压铸电池端子可提供左侧版和右侧版两种型号，尺寸小巧紧凑，功能多样，方便安放。外盖与主体拴在一起，可确保不会发生移位。这款 BDU 配备 1 个 MegaVal 保险丝，经过严格的测试和程序认证，并且已经得到了一些卡车制造商的采用。

USB for licences software
USB 用于许可软件

The software tools, such as MTA Studio®, MTA Speedy Creator® and MTA Gate®, developed by MTA to customize dashboards, displays and ECUs, are now managed using a USB dongle. This allows a quick access to MTA website, where the customer can download all the configuration and development tools.

There are different available licences, Platinum, Gold e Silver, with different characteristics and USB dongles. When the customer buys a licence or a licence renewal, he will receive technical assistance for one year too.

由 MTA 开发的 MTA Studio®、MTA Speedy Creator® 和 MTA Gate® 等软件工具可定制仪表盘、显示屏和 ECU，现在，使用 USB 硬件保护装置即可管理。这样一来，客户可以快速访问 MTA 网站，并在此下载所有配置和开发工具。我们提供不同的许可选项，铂金、金牌、银牌，不同版本特性不同，配备的 USB 保护装置也不同。如果购买或续订许可，客户将同时可以获得为期一年的技术支持服务。
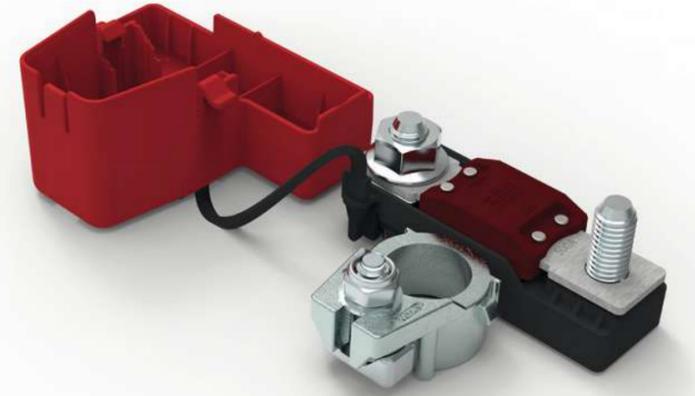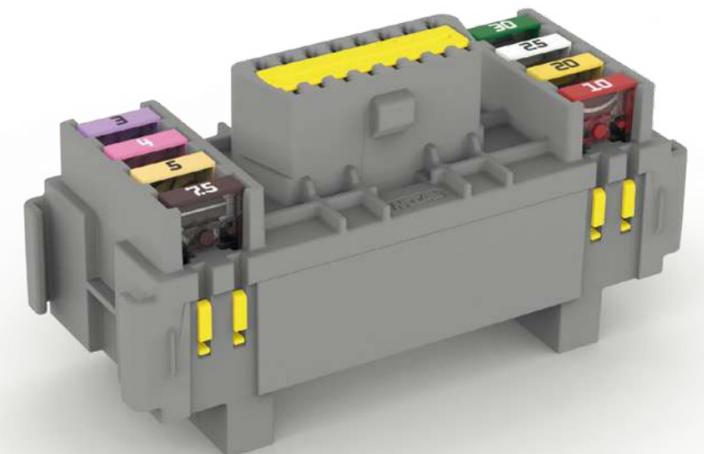
Modular units: The range expands to 15 different solutions
模块化单元：范围扩大到 15 个不同解决方案

MTA has added one new module to the existing range, bringing the total number of modular solutions up to 15. These can house fuses, relays, diodes, circuit breakers and "footprint" micro relays. Robust and compact solutions, they can ensure maximum performance in total safety, and they are all equipped with a secondary lock that guarantees very fast and error-free assembly on the vehicle production line. From the large selection, it is definitely worth mentioning the new module, with bus bar, which can accommodate 8 MiniVal and 1 OBD Connector. Along with these items, MTA offers a range of frames or brackets able to house from 1 to 12 modules to satisfy many different needs of the customers.

MTA 在现有产品系列中增加了一个新模块，使模块化解决方案的总数达到了 15 个。这些模块可以放置保险丝、继电器、二极管、断路器和封装微型继电器。这些解决方案小巧耐用，不仅可以确保整体安全性和性能最大化，并且均配备辅助锁，可确保整个车辆生产线实现快速无错装配。尽管选择众多，新模块也绝对值得一提。这个模块配有母线，可以加装 8 个 MiniVal 和 1 个 OBD 连接头。除了这些产品之外，MTA 还提供多种可放置 1 到 12 个模块的框架或支架选项，能够满足客户的多种不同需求。

First sold licenses		MTA STUDIO	MTA SPEEDY CREATOR	MTA GATE
Platinum Perpetual License	- Device configuration - Device firmware upgrade - App developement	✔	✔	✔
Gold Perpetual License	- Device configuration - Device firmware upgrade			✔
Silver Perpetual License	- Device configuration			✔
Platinum Time Limited License	- Device configuration - Device firmware upgrade - App developement	✔	✔	✔
Renewal licenses				
Platinum Perpetual License	- Device configuration - Device firmware upgrade - App developement	✔	✔	✔
Gold Perpetual License	- Device configuration - Device firmware upgrade			✔
Silver Perpetual License	- Device configuration			✔

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