

MTA *Journal*

Business & News from Automotive World

Year XXVI - Magazine N° 24 - December 2021

EN 中文



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MTA WORLD

Plastic molding: the heart of our products

COVER STORY

A highly connected instrument display for the Speed Triple 1200 RS by Triumph



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MTA Journal
Technical magazine
Year XXVI, n. 24

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

Editorial 主编



In issue 21 of our MTA Journal, we started talking about the problems created by the COVID-19 pandemic.

Today, almost two years later, we still haven't stopped fighting it and other factors have been added to the epidemic that have created huge problems for the supply chain.

All sectors have been affected by the shortage of raw materials and the resulting increase in prices, but the automotive industry seems to have suffered more than the others.

Faced with these difficulties, it's impossible to find a solution in the short term, but we must have courage and invest all the same in expansion projects and new technologies.

Our choices are going in this direction: the acquisition of EDN, the expansion of Brazil, and plastic molding - now in four different locations - are just a few examples of the path we've opted to follow, while many customers continue to reward us by choosing our products.

Technological growth must always go hand in hand with sustainability and attention to the environment we live in. And that's something we haven't forgotten.

在第 21 期《MTA Journal》中，我们将讨论新冠疫情带来的问题。

如今，距离新冠疫情爆发已经过去两年了，抗击疫情的战斗仍在继续，并且疫情还引发了其它一些问题，例如给供应链带来了巨大的挑战。

所有行业和部门都受到了原材料短缺和由此产生的涨价的影响，但汽车行业受到的影响尤甚。

面对这些困难，短期内不可能找到解决方案，但我们必须迎难而上，在扩建项目和新技术上一如既往的投资。

我们选择了这样一条正确的道路：收购 EDN、巴西扩张、注塑部门已在四个分公司设立，这些只是我们所选道路的若干示例，与此同时许多客户继续选择我们的产品，为我们带来了丰厚的回报。

技术发展必须与可持续发展和环境保护并重，我们始终牢记这个发展理念。

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MTA and EDN: together for future market developments

MTA 和 EDN: 共同面对未来的市场发展



As anticipated in this issue's editorial, and as many of you already know by now, in May 2021 MTA acquired 80% of EDN's shares. What are the reasons behind this important step? We asked Antonio Falchetti, CEO of MTA.

正如之前对此事的报道，许多人可能已经知道了这个消息，MTA 在 2021 年 5 月收购了 EDN 80% 的股份。这个重要收购的动机是什么？为此，我们采访了 MTA 的首席执行官 Antonio Falchetti。



Mr. Falchetti, can you talk to us briefly about EDN?

EDN was established in 1993. Its headquarters located a few kilometers north of Milan are home to the Research and Development department and a state-of-the-art production area. EDN designs and manufactures power electronics - OBC (On-Board Battery Charger) and DC/DC Converters for electric vehicles.

Falchetti 先生，您能简要介绍一下 EDN 吗？

EDN 成立于 1993 年。总部位于米兰北部不远处，是研发部门和先进生产区的所在地。EDN 设计和制造高功率电子元件，例如用于电动汽车的车载电池充电器 (OBC) 和 DC/DC 转换器。

What's EDN's flagship product?

Definitely the battery chargers. EDN develops and produces innovative, compact, robust, and reliable solutions with voltages up to 1,000 V and powers up to 22 kW, characterized by high degrees of protection. Developed and built to withstand very demanding conditions in harsh environments, these chargers are used in buses, trucks, vans, and special vehicles covering a wide range of commercial and industrial "full electric" or "plug-in" vehicles (PHEVs).

EDN 的旗舰产品是什么？

当然是电池充电器。EDN 开发和生产的产品以创新、紧凑、坚固、可靠的解决方案为特点，其电压最高可达 1000 V，功率最高可达 22 kW，并且具有很高的保护等级。这些充电器经过专门的开发和制造，可承受恶劣环境下的苛刻条件，适用于公共汽车、卡车、面包车和特种车辆，涵盖多种商用和工业用“纯电动”或“插电混动”车辆 (PHEV)。

What prompted you to acquire EDN?

Alongside its range of products for "traditional" vehicles, MTA develops and supplies manufacturers of electric and hybrid vehicles with fuses, fuse holders, junction boxes, power distribution units, and connectors for high-voltage and 48 V architectures. Now, thanks to the inclusion of products that complement our current range, MTA will be able to offer its customers a more comprehensive selection for electric vehicles. Our portfolio will therefore cover all high-voltage distribution: from electrical components to power electronics. This transaction will also boost EDN's overall growth in size and revenues. In fact, it will benefit from the synergies of our Group in terms of Research & Development, production footprint, logistics, and commercial relations with leading vehicle manufacturers.

是什么原因促使您收购 EDN?

MTA 除了面向“传统”燃油车提供多款产品，还为电动和混动汽车制造商开发和供应保险丝、保险丝盒、接线盒、配电装置以及用于高压和 48 V 轻混架构的连接器。通过本次收购，完善了我们的现有产品系列，MTA 将能够为客户提供更丰富的电动汽车产品选择。我们的产品组合将涵盖所有高压配电领域：从电气元件到高功率电子元件。这项交易还将全面推动 EDN 规模和收入的增长。事实上，它将受益于我们集团在研发、生产规模、物流以及与领先汽车制造商之间商务合作关系的协同效应。

What developments are expected for EDN and its products in the near future?

The first step - just after the acquisition - was to transfer production to a new industrial property that will allow the necessary expansion to accommodate the expected growth. There will also be a major expansion of R&D resources to respond to the market's great interest in EDN products. This will be followed by the purchase and installation of a new production line. The integration of all IT systems, including SAP, is another urgently needed step, while synergies offered by MTA's purchasing offices and staff are already in place and have immediately begun to address EDN's needs as well.

在不久的将来，EDN 及其产品将有哪些发展？

收购后的第一步是将生产转移到一个新的工厂，以便进行必要的扩张，满足预期的增长需求。为了响应市场对 EDN 产品的极大需求，研发资源也将大幅增加。紧接着，我们将购买和搭建一条新的生产线。此外，集成所有 IT 系统，包括 SAP，是另一项迫切需要展开的工作。MTA 的采购办公室和员工已经做好准备，能够即刻开始解决 EDN 的需求。

The latest model developed, the HPC, is the result of two years of research and development by the EDN team to offer a new conversion technology that can improve power density and specific power. The entire range features IP67 and IP6K9K protection and galvanic isolation, which ensures a clear separation between the vehicle and the network. The BHP series is based on HPC technology, but has bi-directional characteristics for V2G (vehicle to grid) and V2L (vehicle to load).

最新开发的型号 HPC 是 EDN 团队两年来的研发成果，该产品旨在提供一种新的转换技术，提高功率密度和比功率。整个系列具有 IP67 和 IP6K9K 保护以及电隔离功能，确保车辆和网络之间互不干扰。BHP 系列基于 HPC 技术，但具有 V2G (车辆到电网) 和 V2L (车辆到负载) 的双向特性。



Plastic molding: the heart of our products 注塑：我们产品的核心

Plastic molding is the key to our production process and to the high quality and precision that are fundamental elements of all our products.

For this reason, the departments dedicated to the molding of plastic materials - currently located in Italy, Brazil, Slovakia, and Morocco - have all been designed according to the most modern logic of industrial organization and incorporate the complete know-how of the entire production process.

Indeed, they are entrusted with the global responsibility of the product to be assembled: from the maintenance of the molds and presses to the management of cross-cutting processes such as manufacturing engineering and quality.

注塑是我们生产工艺的关键，高质量和高精度是我们所有产品的基本特征。

出于这个原因，专门负责塑料材料成型的部门（目前位于意大利、巴西、斯洛伐克和摩洛哥）都是按照现代化的工业组织逻辑设计的，并采用了整个生产工艺的全部技术。

事实上，它们担负着待组装产品的全球责任：包括从模具和冲压机的维护到制造工程和质量等横切工艺的管理等。


4 SITES: ITALY, BRAZIL, SLOVAKIA, MOROCCO



Arujá, Brazil



Bánovce nad Bebravou, Slovakia



Maintenance team, Codogno, Italy



Kenitra, Morocco



Codogno, Italy



Bánovce nad Bebravou, Slovakia

Engel plays an important role in guaranteeing high-quality molding, and we're pleased to celebrate the 25th year of our partnership and the delivery of press number 100!

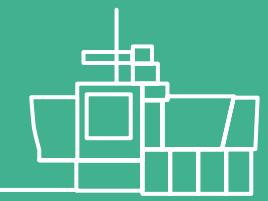
Engel 在保证高质量注塑方面发挥着重要作用。我们很高兴庆祝我们的合作伙伴关系进入第 25 个年头，并实现了第 100 台冲压机的交付！

ENGEL

www.engelglobal.com



145 PEOPLE



117 PRESSES
50-450 TONS

The molding areas are all equipped with a centralized plastic granulate distribution system for the automatic feeding of each individual press.

Today MTA molds around half a billion products a year in the four sites using 117 presses with tonnage ranging from 50 to 450 t.

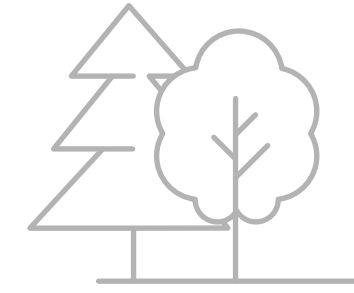
注塑区域均设有集中的塑料颗粒分配系统，用于自动给每台冲压机单独供料。

目前，MTA 每年在四个工厂使用 117 台吨位从 50 吨到 450 吨不等的冲压机生产约 5 亿件产品。



Codogno, Italy

A greener future 一个更加绿色的未来



For sites with a plastic molding department – Italy, Brazil, Slovakia and Morocco – we've arranged to replace the existing fluorinated gas chillers with **high-efficiency ammonia chillers**. In addition to improving efficiency, the use of ammonia refrigeration units reduces the use of gases considered harmful to the ozone layer. The new machines are also equipped with thermal recovery exchangers to warm the water used in the departments' heating systems.

对于有注塑部门的工厂，比如意大利、巴西、斯洛伐克和摩洛哥，我们已经安排用**高效氨制冷机**取代现有的氟化气体制冷机。除了提高效率，氨制冷机组的使用减少了对臭氧层有害的气体的使用。新机器还配备了热回收交换器，用于加热各部门加热系统中使用的水。

我们的很多工厂都配备了**太阳能电池板**，以减少电力消耗，而我们设在罗洛的意大利工厂则设计成了自供电模式。事实上，那里的太阳能电池板基本上能够满足设施的需求，多余的电力会被反馈回电网。

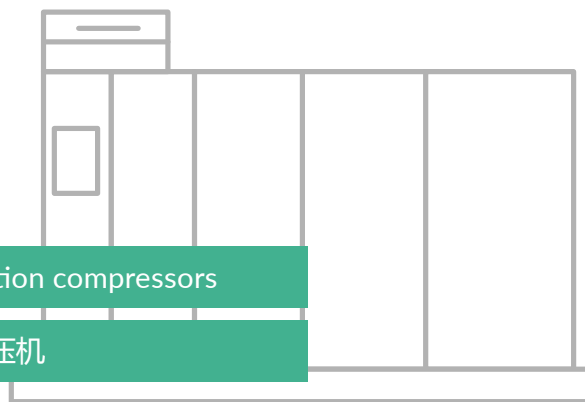
总体上，我们还在必要的地方对建筑**外部进行了隔热处理**，并全面升级了冬夏空调系统和热水发电系统。

但 MTA 对环境的贡献不仅在于减少排放，还在于提高二氧化碳的吸收能力。众所周知，树木能很好地吸收二氧化碳，尽管花园的规模已经很大，我们仍决定增加我们花园里的植物数量，进一步扩大这些**绿肺**。

Many of our sites are equipped with **solar panels** to reduce electricity consumption, while our Italian site in Rolo has been designed to be autonomous. In fact, the solar panels there largely meet the facility's needs and the excess electricity is fed back into the grid.

In general, we are also **insulating building exteriors** where necessary, and fully upgrading summer and winter air conditioning systems and hot water generation systems.

But MTA's contribution to the environment isn't just about reducing emissions, it's also about increasing CO₂ absorption capacity. Since as we all know this is something that trees do very well, we have decided to increase the number of plants in our already-large gardens in order to further expand these **green lungs**.

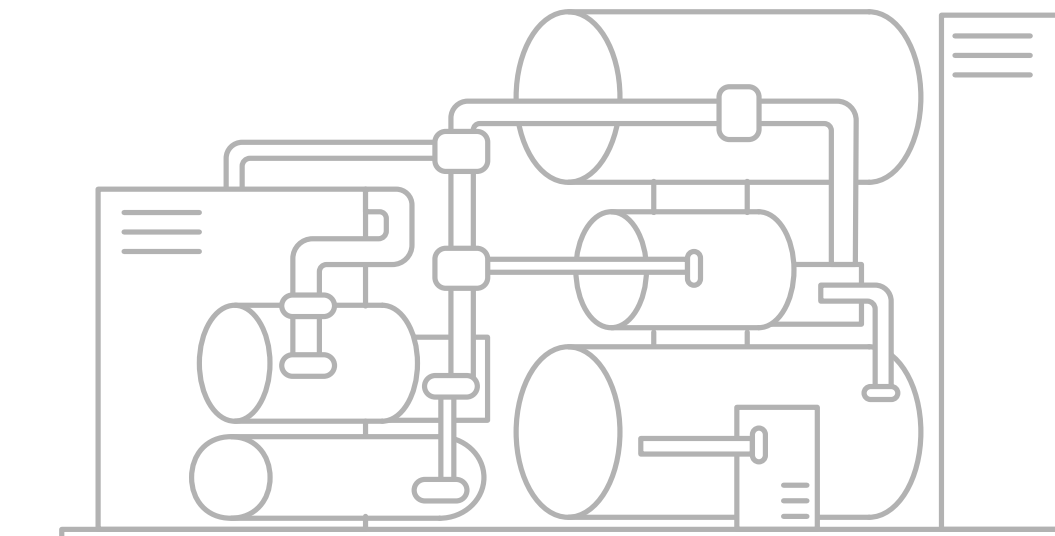
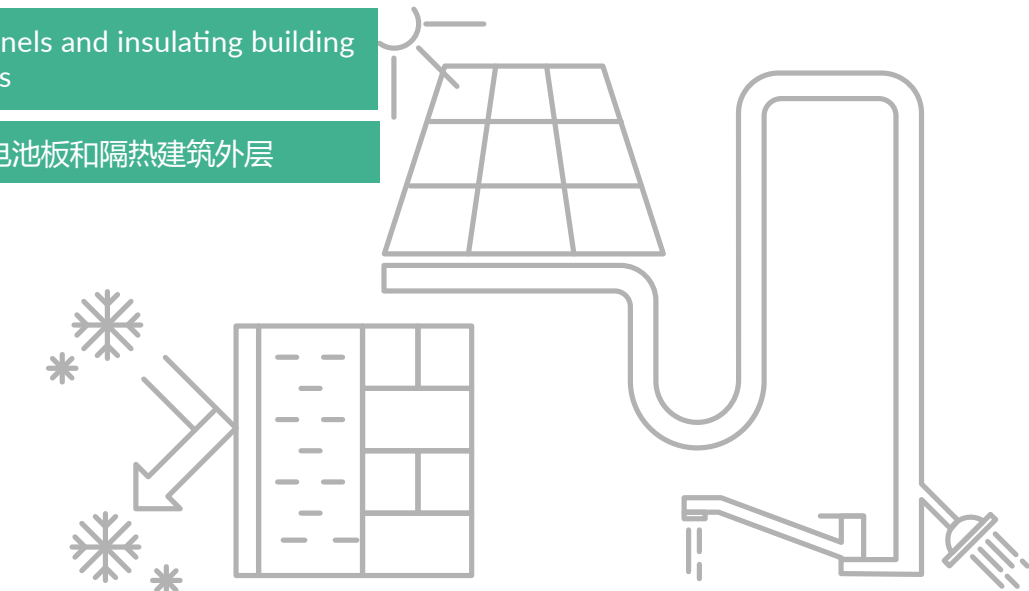


Latest-generation compressors

最新一代的空压机

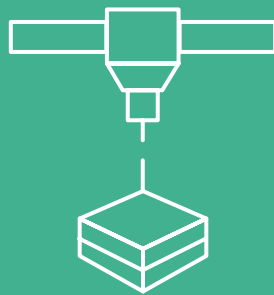
Solar panels and insulating building exteriors

太阳能电池板和隔热建筑外层



High-efficiency ammonia chillers

高效氨制冷机



HALF A BILLION
PRODUCTS
MOLDED
EVERY YEAR



Codogno, Italy

Bánovce nad Bebravou, Slovakia



The focus on the people who work at all of our sites and the surrounding environment has always been a priority for the group. Following a careful analysis of the energy consumption of its various activities, we have identified critical points and opportunities for savings, therefore foreseeing to implement several measures aimed at improving its efficiency.

For the production departments of all locations where compressed air is used we've planned to install **latest-generation compressors** capable of meeting the same requirements for pressurized air with significantly lower power consumption. In addition to the savings, we must also consider the recovery of the thermal energy from compression that will be transferred to the heat pumps serving the heating system.

关心我们所有工厂的员工和周围的环境一直是集团的重点。在对各种活动的能耗进行仔细分析后，我们确定了节约的关键点和着手点，因此我们预计将采取一些措施来提高效率。

对于所有使用压缩空气的工厂的生产部门，我们计划安装**最新一代的冲压机**，能够满足同样的加压空气要求，同时大大降低功耗。除了节约，我们还必须考虑回收压缩热量，将其传递到为供暖系统服务的热泵中。



ALL MTA
MANUFACTURING
SITES ARE
ISO 14001 CERTIFIED



Brazil: production continues to expand 巴西：产能不断扩大

First among all the sites to be equipped with a laboratory, which has been operational for more than ten years now, and with a molding department with 11 presses having a tonnage ranging from 80 to 450 t, MTA Brasil has often gone through extensions and modernizations, which have allowed an increase in production capacity and significant growth in turnover.

We've told you about these developments in a number of past issues, but recent projects acquired for some of the most important vehicle manufacturers in the Latin American market have required even more space for new assembly lines with a high level of automation.

The warehouse was therefore moved to another nearby building, freeing up a significant amount of space that will be completely devoted to these automated assembly lines.

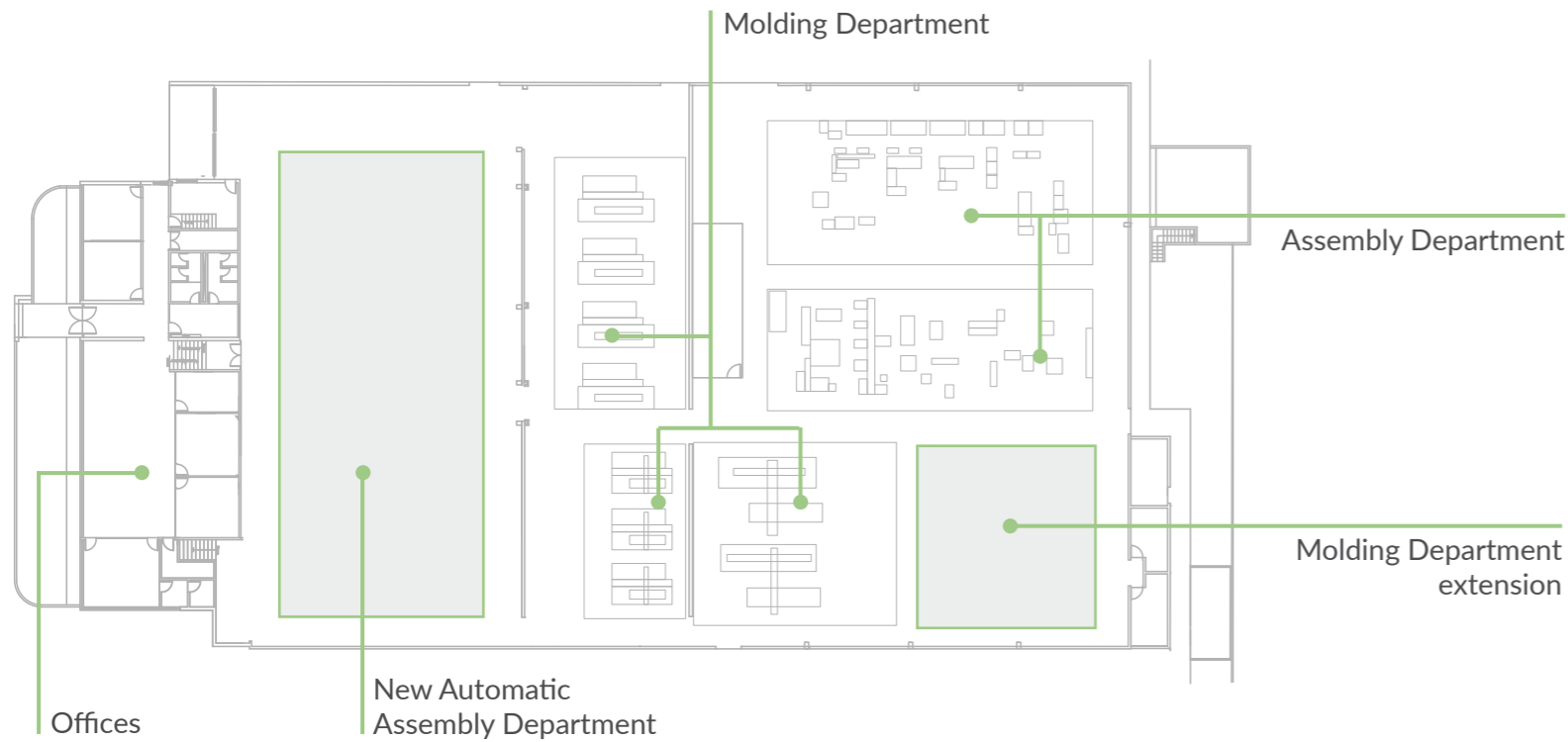
The benefits that MTA Brasil will be able to offer customers are clear. Increased production capacity will improve time-to-market for Mercosur. In fact, MTA Brasil and MTA Mexico guarantee our strong presence in the American market also through mutual partnerships aimed at optimizing the production of some components.

MTA 巴西是所有MTA分公司中第一个配备实验室的工厂。该实验室已经运行了 10 多年，注塑部门拥有 11 台冲压机，其吨位从 80 吨到 450 吨不等。该公司经常进行扩建和现代化改造，确保产能逐渐增加，营业额大幅增长。

我们已经在过去几期向大家介绍了这些发展，但是最近我们从拉丁美洲市场上一些重要汽车制造商拿下的项目需要更多的空间来建设自动化程度更高的新装配线。

因此，仓库被搬到了附近的另一座建筑，腾出了大量的空间，全部用来建设自动化装配线。

MTA 巴西工厂能够为客户提供的好处是显而易见的。生产能力的提高将缩短产品在南方共同市场的上市时间。事实上，MTA 巴西和 MTA 墨西哥也通过旨在优化一些元件生产的相互合作，保证了我们在美国市场的强势地位。



Agri SIC: a single computer for a multi-display system 用于多屏显示系统的单台计算机

The cab operator today has to deal with an always increasing number of information and needs to have all such information available and displayed at a glance.

This can result in complicated systems with displays featuring high performance and computing capabilities and at very high costs. In order to avoid complexity and as much as possible guarantee safety, reliability, durability and cost efficiency, MTA has developed a solution that gathers all the computing power in one unit: Agri SIC.

Agri SIC is a complete in-vehicle system for off-highway vehicle applications, featuring an intelligent central unit that can manage and control all the displays, sharing data and contents. The presence of this 'electronic heart' makes the displays and the central dashboard become separate devices on the system. This enables OEMs to easily replace them in the transition from one vehicle application to another and, thanks to the fact that the central unit gathers all the computing power, it will be possible to equip the cab with ultra-slim displays, for a greater aesthetic appeal compared to the past.

The unit is based on a powerful architecture that makes use of a latest generation multicore microprocessor with a very high computing power. It can handle up to four Full HD displays inside the cab, as well as collect and convey the information coming from the vehicle, and the images from cameras through BroadR-Reach technology.

The Agri SIC has a Linux based software architecture which is very flexible and allows the unit to be developed according to the specific needs of the customer's application. However, such flexibility does not come at the expense of compliance with stringent software development standards, as MTA is working on its infotainment systems according to the Automotive Spice process required by all leading OEMs.

现在的驾驶室操作员必须要处理数量不断增加的信息，并且需要将所有这些信息一目了然地显示出来。

这可能导致系统越来越复杂，显示器要具有极高的性能和计算能力，而且成本非常高。

为了避免复杂性，并尽可能地保证安全性、可靠性、耐用性和成本效益，MTA 开发了一个解决方案，将所有的计算力集中在一个装置：Agri SIC。

Agri SIC 是一个完整的车载系统，用于非公路车辆应用，带有一个智能中央单元，可以管理和控制所有显示器，共享数据和内容。这个“电子心脏”的存在使显示器和中央仪表盘成为系统上的独立设备。这使OEM能够在从一种车型应用过渡到另一种车型应用的过程中轻松地替换它们。而且，由于中央装置集中了所有的计算力，将有可能为驾驶室配备超薄显示器，与过去相比更美观。

该装置以强大的架构为基础，利用最新一代多核微处理器，具有非常高的计算能力。它可以在驾驶室内处理多达四个全高清显示器，并通过 BroadR-Reach 技术收集和传输来自车辆的信息和来自摄像头的图像。

Agri SIC 具有基于 Linux 的软件结构，非常灵活，可以根据客户的具体应用需求来开发该装置。然而，这种灵活性并不影响它遵守严格的软件开发标准，因为 MTA 是按照所有主流OEM所要求的 Automotive Spice 流程来开发其信息娱乐系统的。

A highly connected instrument display for the Speed Triple 1200 RS by Triumph 用于 Speed Triple 1200 RS 的高度联通的仪表显示屏



© Copyright Triumph Motorcycles

Triumph Motorcycles launches the new iconic Speed Triple 1200 RS and chooses MTA for the supply of a state-of-the-art instrument display, specifically developed for the British manufacturer.

The MTA instrument display, equipping Speed Triple 1200 RS, the most powerful, agile, responsive and technologically advanced Speed Triple ever, is a full colour 5" TFT with a modern design perfectly matching the sinuous lines of the motorcycle. The instrument display also features anti-glare, anti-reflection, anti-fingerprint and anti-scratch treatments, in order to ensure maximum visibility in all climatic conditions.

Easy to read and providing much information, both essential and additional, to the rider from the onboard computer, the display has six screen styles to choose from, all with high and low brightness adjustable settings, for perfect visibility.

The MTA instrument display features an up-to-date operating system, that gives the rider the ability to access and manage My Triumph Connectivity System which is fitted as standard on the motorcycle and provides turn by turn navigation, music and phone operations and a unique GoPro control

The MTA instrument display has a modern design perfectly matching the sinuous lines of the motorcycle

functionality. This whole new generation of motorcycle connectivity designed to offer an enhanced rider experience is guaranteed by the presence on the display instrument of 4 Bluetooth channels, two of which are Low Energy (BLE). The two Classic Bluetooth enable the connection of 2 smartphones and 2 headsets, while the BLEs are used for the GoPro camera and for future connectivity additions.

The Bluetooth integration in the instrument display represents a huge evolution with respect to what is traditionally in the market, where most applications for this kind of connectivity require an external module to be fitted. Moreover, the presence of the 4 different channels allows the signal connection to be more stable, for an enhanced perceived quality by the rider.

The MTA instrument display comes with several different certifications required globally for the electromagnetic compatibility, thus allowing the motorcycle to be marketed in all required sales territories for the Triumph application, being fully compliant with local regulations.

凯旋摩托 (Triumph Motorcycles) 推出了标志性的新款 Speed Triple 1200 RS, 并选择 MTA 为其提供先进的仪表显示屏。这款显示屏专为这家英国制造商开发。

Speed Triple 1200 RS 配备的 MTA 仪表显示屏是一款全彩 5 英寸 液晶显示屏, 其现代化的设计与这款摩托车的流线型线条相得益彰。Speed Triple 1200 RS 是有史以来动力最强、最敏捷、反应最灵敏、技术最先进的三缸街车。仪表显示屏还经过了防眩光、防反射、防指纹和防刮擦处理, 以确保在所有气候条件下的最大可见度。

该显示屏易于阅读, 可以向骑手提供大量必要和额外的来自机载电脑的信息。显示屏有六种屏幕风格可供选择, 全部都可以调节亮度, 以获得完美的可视性。

MTA 仪表显示屏采用最新的操作系统, 使骑手能够访问和管理 My Triumph 连接系统。该系统作为标准配置安装在摩托车上, 提供转弯导航、音乐和电话操作以及独特的 GoPro 控制功能。这种全新一代的摩托车联网功能旨在提供更好的骑手体验。显示仪表上的 4 个蓝牙通道为此提供了保障, 其中两个是低功耗蓝牙 (BLE)。两个经典蓝牙通道能够连接 2 个智能手机和 2 个耳机, 低功耗蓝牙则用于连接 GoPro 相机和更多其它设备。

MTA 仪表显示屏采用现代设计, 与摩托车的流线型线条完美匹配

与市场上传统技术相比, 蓝牙技术在仪表显示屏上的集成代表了一大进步。在传统的市场上, 这种连接的大多数应用都需要安装一个外部模块。此外, 4 个不同通道使信号连接更加稳定, 以提高骑手的感知质量。

MTA 仪表显示屏具备全球电磁兼容性所需的几种不同认证, 让这款摩托车能够在需要 Triumph 这项应用的所有销售地区进行销售, 完全符合当地法规。

Power Distribution Units for 48 V Jaguar Land Rover electrical architectures

用于捷豹路虎 48V 电器架构的配电装置

The second distribution unit, supplied in a single variant, is capable of covering all 48 V applications of the Range Rover Evoque, Velar, E-Pace and F-Pace models, in addition to some models on which the other unit is mounted.

The first is produced in MTA Slovakia and, thanks to the presence of plug-in connectors that allow a direct connection, is supplied to the Jaguar Land Rover plant in Nitra. The second one, on the other hand, is assembled by MTA Morocco and delivered to the JLR wiring harness suppliers.

Thanks to this supply, the MTA Codogno, MTA Slovakia and MTA Morocco factories have all been homologated by Jaguar Land Rover.

The two distribution units supplied to JLR represent further confirmation of the increasing presence of MTA in medium voltage applications and the importance of our global footprint, which allows us to promptly serve customers where they require it.

第二个配电装置以单一版本供应，能够覆盖 Range Rover Evoque、Velar、E-Pace 和 F-Pace 等所有 48 V 电器架构车型的应用，此外其中几款车型还安装了另一个电器装置。

第一个配电装置在 MTA 斯洛伐克生产，由于有支持直接插入式连接器的解决方案，它被对接供应给捷豹路虎的尼特拉工厂。第二个配电装置由 MTA 摩洛哥组装并交付给 JLR 的线束供应商。

凭借这两个产品的交付，MTA 科多尼奥、MTA 斯洛伐克和 MTA 摩洛哥工厂均得到了捷豹路虎的认可。

向 JLR 提供的两款配电装置进一步夯实了 MTA 在中电压电器架构应用的影响力，以及我们全球业务的重要性，这使我们能够在客户需要时及时为其提供服务。



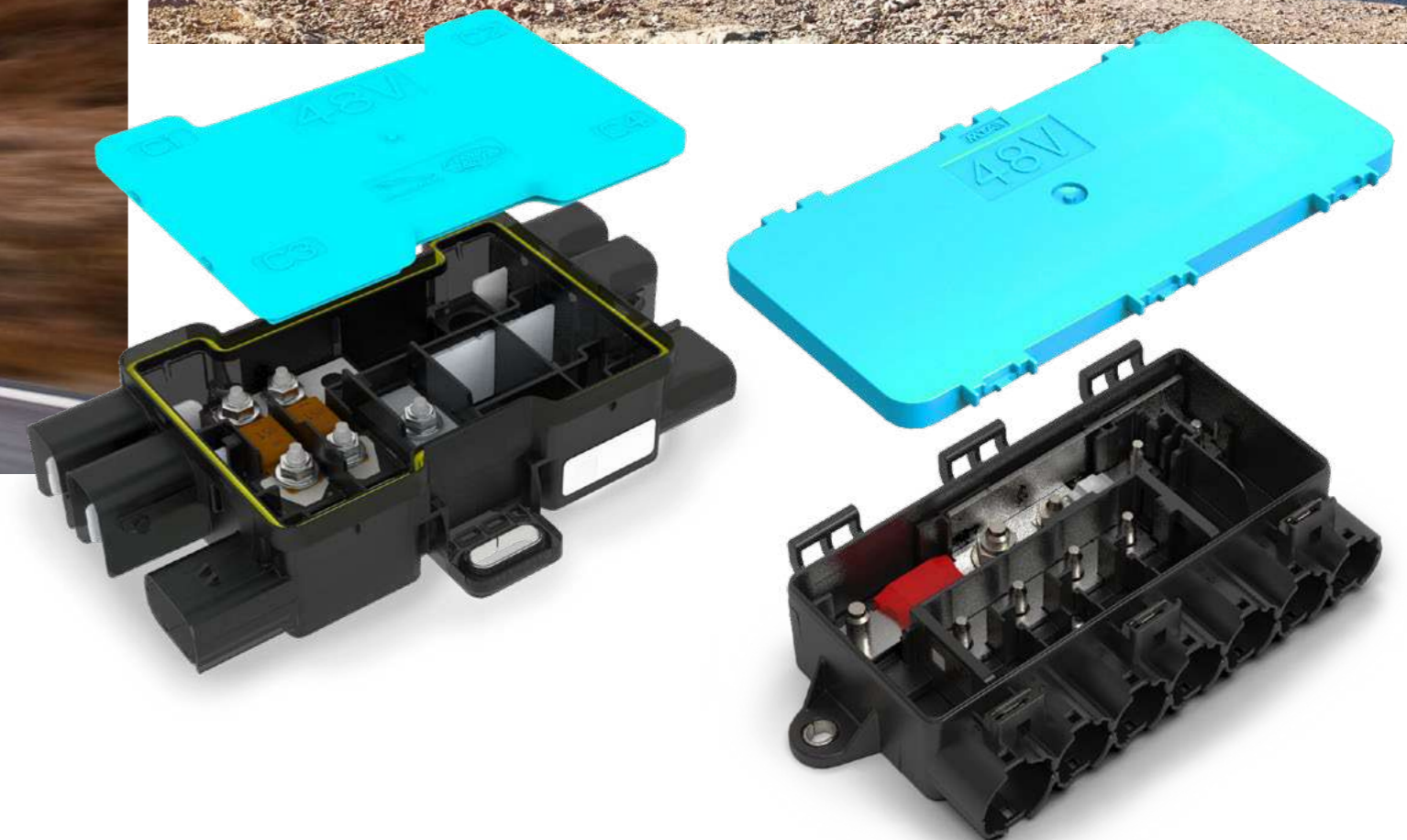
Range Rover Sport HST
Mild Hybrid

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Jaguar E-Pace

© Copyright Jaguar Land Rover Limited



Thanks to the decades-long know-how that has seen us design and produce many power distribution units for the main OEMs, Jaguar Land Rover too found in MTA the right partner to develop 2 units dedicated to the 48 V electrical architectures of the Mild Hybrids from its luxury brands.

The first distribution unit is supplied to JLR in 4 different variants. Through a complex system of co-molding between the busbars and the plastics, the interfaces for the direct plug-in of the connectors are created. The distribution unit is fitted to 48 V models from Defender, Range Rover Velar, Range Rover, Range Rover Sport and F-Pace.

得益于我们几十年来为主要 OEM 设计和生产多款配电装置的技术经验，捷豹路虎找到 MTA 成为其合适的合作伙伴，为其豪华品牌的轻度混合动力车开发 2 款专用于 48V 电器架构的配电装置。

第一个配电装置分 4 种不同的版本供给 JLR。通过复杂的嵌件注塑成型工艺将母线排和塑料壳体一体成型，实现了连接器直插接口的高精度要求。该配电单元使用在 Defender、Range Rover Velar、Range Rover、Range Rover Sport 和 F-Pace 的 48 V 电器架构的车型上。

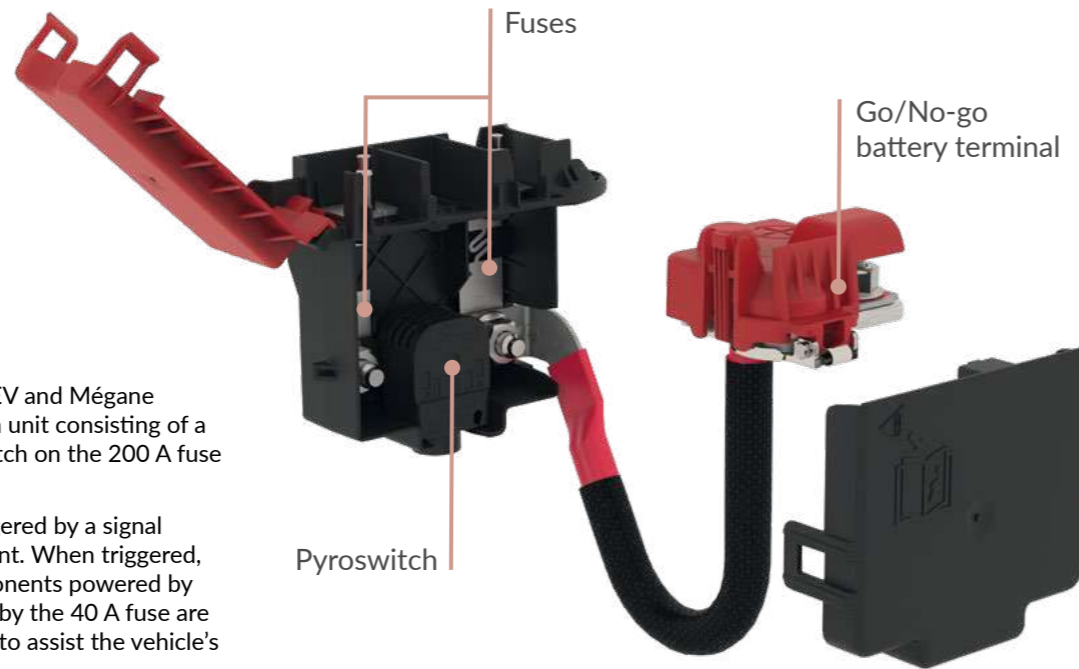
Safety first 安全第一

For some Renault vehicles (e.g. Clio HEV, Captur PHEV and Mégane PHEV) MTA has developed a 14 V power distribution unit consisting of a 200 A fuse output, a 40 A fuse output and a pyroswitch on the 200 A fuse line. This unit is connected to the 12 V main battery.

The pyroswitch is a disconnection device that is triggered by a signal from the airbag control unit in the event of an accident. When triggered, it interrupts the power supply of the electrical components powered by the 200 A fuse, while the electrical devices powered by the 40 A fuse are kept active as they can help reduce the time needed to assist the vehicle's occupants in certain accidents.

The "Pyro" units are currently supplied to Renault in four models that differ in the terminal or battery terminal they mount.

They are manufactured at our plant in Kenitra and supplied directly to Renault.



MTA 为雷诺的一些车型（如 Clio 混合动力汽车、Captur 插电式混合动力汽车和 Mégane 插电式混合动力汽车）开发出一款 14 V 配电单元，其中包含一个带 200 A 保险丝的输出端、一个带 40 A 保险丝的输出端，并在 200 A 保险丝线路中配有爆炸熔断丝。该单元与 12 V 主电池相连。

爆炸熔断丝是一种熔断装置，在发生事故时由来自安全气囊控制单元的信号触发。触发后，该装置会断开经由 200 A 保险丝供电的电气元件的电源，而经由 40 A 保险丝供电的电气元件则保持工作状态，因为在某些事故中，它们可以缩短为车内驾乘人员提供帮助所需的时间。

"Pyro"单元目前以四种型号向 雷诺供货，它们在安装的端子或电池端子方面有所不同。

这些单元在我们的盖尼特拉工厂生产，并直接向 雷诺供货。



Renault Clio E-Tech Hybrid

BSP, a simple but fundamental product BSP:一款简单却必不可少 的产品



Electric engines from Mercedes-Benz AG are now equipped with a jump start node connected to the main battery power distribution unit. This is a "relocated" positive battery pole, consisting of a plastic body, a brass busbar, and a steel screw. A simple product in concept and composition, but fundamental.

During service interventions it is in fact necessary to power the battery from the outside so that it does not discharge causing data loss in the numerous control units we find in electric cars. The battery is often positioned in inaccessible areas and our positive pole allows to connect to it easily.

The product has been developed by MTA in accordance with Mercedes-Benz AG needs and produced by MTA Slovakia.

梅赛德斯-奔驰公司的电动发动机现在装备了一个连接到主蓄电池配电装置的跨接启动节点。这是一个“重新定位”的电池正极，由一个塑料体、一根黄铜母线和一根钢制螺丝组成。该产品在原理和构造上非常不起眼，但是不可或缺。

在维修过程中，有必要从外部为蓄电池供电，使其不会因放电，而导致众多控制单元的数据丢失，电动汽车维修中经常会遇到此问题。电池通常放置在难以触及的地方，我们的正极可以轻而易举的与之连接。

该产品由 MTA 根据梅赛德斯-奔驰公司的需求开发，由 MTA 斯洛伐克工厂生产。

Various electrical products for Sevic utility vehicles 用于 Sevic 轻型货车的各种电气产品

Sevic, a German company that designs, engineers, and produces compact and full electric utility vehicles, has selected MTA to equip its new V500e. The V500e is a vehicle built in Europe for urban logistics, with innovative features such as an intelligent platform with interchangeable load structures, a range of up to 300 km, extensive use of connectivity, and an advanced fleet management system.

Frames, power distribution unit, fuse and relay holder modules, terminals, power terminals, battery terminals and different types of connectors are among the products that MTA will be supplying for use on this interesting vehicle, ideal for last-mile deliveries.

Sevic 是一家集设计、开发和生产紧凑型纯电动轻型货车于一身的德国公司，它选择了 MTA 的产品来装备它的新款 V500e。V500e 是一款在欧洲制造的城市物流车，具有各种创新功能，如具有可互换负载结构的智能平台、最大行驶里程 300 公里、广泛使用联网功能以及先进的车队管理系统。

MTA 将要向这款车提供多种产品：框架、配电装置、保险丝和继电器支架模块、端子、电源端子、电池端子和不同类型的连接器，这款车是送货到家的理想选择。



Giotto and Leonardo in the cabs of Manitou 在 Manitou 驾驶室中应用 Giotto 和 Leonardo



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Manitou, a French group with offices in Italy and France and leader in handling machines, will mount MTA Giotto and Leonardo displays on many models of its fixed and rotating telehandlers for construction.

The MRT Vision rotating telehandlers are equipped with the 8" Giotto display, while the MRT Vision+ line uses the 12" Leonardo display.

The telehandlers of the MHT range mount the 8" Giotto display in the cab, a device that can meet the needs of any machine.

Giotto and Leonardo are MTA's top-of-the-line displays, developed on the Android platform. They feature a multi-touch, anti-fingerprint, anti-reflective TFT screen, and can even be used with gloves. All these features are necessary for the environment they're used in, especially the anti-reflection screen considering that light enters the cab from all four sides. Used both in portrait and landscape mode, the two displays guarantee superior resistance to vibrations and high temperatures and an IP66 protection. Giotto and Leonardo are distinguished by the presence of two video inputs connected to a rear camera, necessary to allow the operator a 360° view of the surrounding environment.

A multi-page menu allows for the management of various operating parameters, such as fuel and urea levels, water and oil temperatures, on-board diagnostics, not to mention work and settings pages. The detailed 3D graphics are modern and eye-catching, made possible by Android Studio. Finally, the use of Speedy Creator®, our software tool that extends the standard Android functions, has allowed the development of an important application for the operators' safety that shows some parameters related to the machines' stability in real time.

Manitou 是一家法国集团，在意大利和法国设有办事处，是搬运机械领域的领头羊。该集团将在其多款型号的执行搬运操作的固定式和旋转式伸缩臂叉车上安装 MTA Giotto 和 Leonardo 显示屏。

MRT Vision 旋转式伸缩臂叉车配备 Giotto 8 英寸显示屏，MRT Vision+ 系列使用 12 英寸 Leonardo 显示屏。

MHT 系列伸缩臂叉车的驾驶室内安装了 Giotto 8 英寸显示屏，这款显示屏可以满足任何机器的需求。

Giotto 和 Leonardo 是 MTA 在安卓平台上开发的顶级显示屏。它们具有多点触控、防指纹、防反射的 TFT（薄膜晶体管）屏幕，甚至可以佩戴手套操作。所有这些功能对于它们的使用环境来说都是必要的，特别是防反射屏，非常适合光线从四面八方进入驾驶室的环境。使用模式分为纵向和横向两种，两种模式均可确保卓越的抗振动和抗高温性能，并具有 IP66 级防护。Giotto 和 Leonardo 的独特之处在于两个连接到后视摄像头的视频输入，这让操作人员能够 360 度地观察周围环境。

多页菜单方便管理各种操作参数，如燃油和尿素液位、水温和油温、车载诊断，以及工作和设置页面。详细的 3D 图形新颖而醒目，由 Android Studio 实现。最后，使用我们的软件工具 Speedy Creator® 来扩展标准的安卓功能，开发了一个重要的应用来保护操作人员的安全，能够实时显示与机器稳定性相关的参数。



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Idea for Dieci 为 Dieci 设计的 Idea

Idea, our off-the-shelf display that can be customized using our proprietary software tool MTA Studio®, has been chosen by Dieci to equip its Agri Max and Agri Plus telehandlers, used in agriculture, and the Apollo Smart for the construction industry.

MTA Studio's ease of use allowed Dieci to develop its software totally in-house after some simple training by our engineers, making it possible for the customization to achieve its maximum potential both in graphics and operational logic. For example, the bars on the right-hand side of the Idea display have been programmed by Dieci as anti-tip indicators, a feature that allows this safety function to be incorporated into the dashboard for maximum efficiency. Moreover, thanks to the large memory and features provided by MTA Studio, the 7" TFT will display an image of the machine with a level of detail and depth that's similar to 3D.

The partnership between MTA and Dieci is destined to become even stronger over time thanks to the use of the Idea dashboard on other machines that the manufacturer will launch in the coming years.

Idea 是我们的成品显示屏，可以使用我们专有的软件工具 MTA Studio® 进行定制，这款产品已被 Dieci 选中用于装备其农用 Agri Max 和 Agri Plus 伸缩臂叉车，以及建筑业用的 Apollo Smart。

MTA Studio 简单易用，Dieci 的工程师经过简单的培训后，完全可以在内部开发其软件，通过定制在图形和操作逻辑方面发挥最大潜力。例如，Dieci 将 Idea 显示屏右侧的条形杆设计为防倾倒指示器，从而可以将此安全功能集成到仪表板中，以实现最大效率。此外，得益于 MTA Studio 提供的超大内存和各种功能，7 英寸液晶显示屏将以类似于 3D 的细节和深度显示机器的图像。

随着时间的推移，MTA 和 Dieci 之间的合作注定会变得更加紧密，该制造商将 Idea 仪表板用在未来几年推出的其它机器上。

7" TFT glued to the glass using optical bonding and mineral glass cover with anti-fingerprint and anti-scratch surface ensure excellent visibility

7 英寸液晶显示屏使用光学胶合技术粘在玻璃上，矿物玻璃盖具有防指纹和防刮擦表面，确保良好的可见度

Anti-tip indicators
防倾倒指示器

Navigation buttons
导航按钮

- Maximum ruggedness
- IP 66
- 12 Vdc and 24 Vdc
- 最大强度
- IP 66
- 12 Vdc 和 24 Vdc



Agri Max



Agri Plus



Apollo Smart

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Kenitra, Morocco



Arujá, Brazil



Bánovce nad Bebravou, Slovakia



PLASTIC MOLDING TEAMS AROUND THE WORLD

Codogno, Italy

