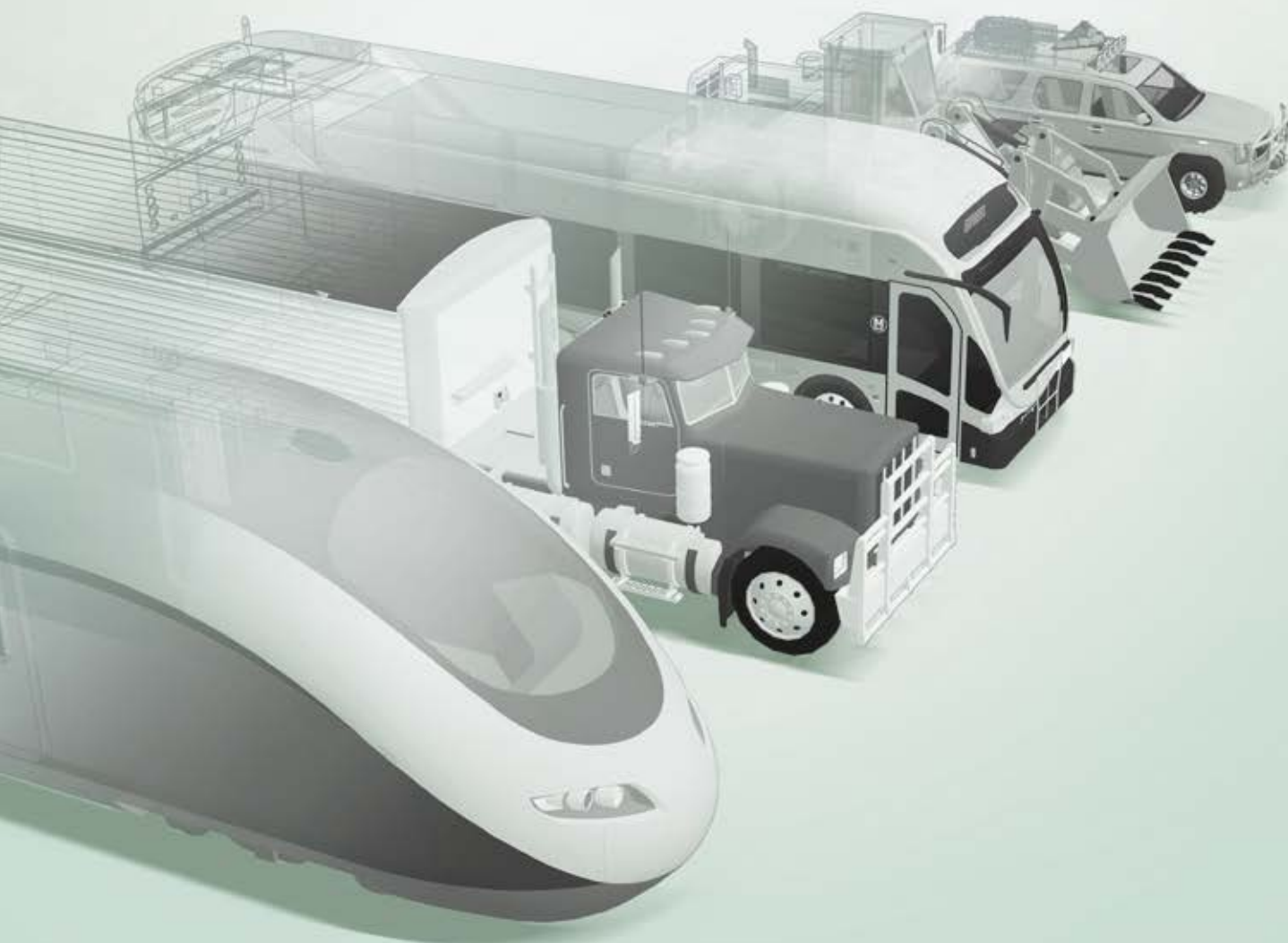


Solutions for mobile automation

C_Transport

*Components and systems for the road,
railway and off-road sector*







Solutions for mobile automation

C_Transport

*Technology
and competence
to provide solutions
in transport
applications*

The transport sector is growing continuously and being driven by a demand for solutions that are increasingly complex and unique. This growth is presenting significant social challenges i.e. the realisation of transport systems that are efficient, safe and environmentally friendly. The resulting growth in the demand for energy, climate change and the increase in traffic, air and sound pollution all have a negative impact on local and global ecosystems. More efficient public and private transport solutions are therefore essential to achieving the required long term sustainability. The social challenges that face us can only be met through the development of innovative,

technological and efficient solutions that minimise any negative effects on the environment and subsequently all of us as individuals. Camozzi realized its own internal C_Transport department, in which technicians and Business Development Managers work in partnership with the client to study the applications, the working conditions which are often connected with environments characterized by extreme pressures or temperatures, in which external stress may affect the performances of the components.

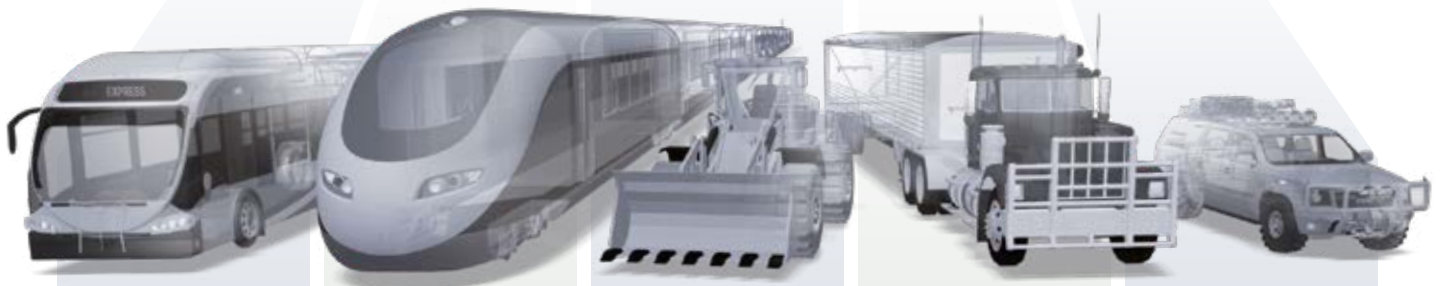




Solutions for mobile automation

C_Transport

Camozzi offers robust, reliable and efficient solutions which are suitable for operation in a wide range of environmental conditions. Our experience and expertise enables the development of solutions that are customised to meet each individual customer's specification. These tailored solutions include the modification of standard components, the assembly of compact panels or the development of completely new components or mechatronic systems.



BUS & COACH *Comfort*

Safety and reliability of components and systems that comply with the international standards, assuring maximum comfort to passengers and drivers.



RAILWAY *Quality*

Quality of mechatronic systems combined with the guaranteed efficiency of pneumatic systems for the handling of fluids on board.



OFF HIGHWAY *Reliability*

Robust and long life of specifically studied systems and components for:

- Agriculture
- Earth moving
- Military



TRUCK & TRAILER *Safety*

Reliability and easy in maintenance and practical in use characterize the integrated panels and systems for an efficient and safe automation.



OFF ROAD & CAR *Technology*

Modular mechatronic solutions with a compact design and components for braking systems and on-board applications.

C_Transport. Drive the future.



Camozzi: innovation expertise and passion

FOCUS ON MAXIMISING
CUSTOMER BENEFITS

CONSTANT COMMITMENT
TO IMPROVING PERFORMANCE

PRODUCTION PLANTS IN ITALY, USA,
RUSSIA, UKRAINE, CHINA AND INDIA

BRANCHES, DISTRIBUTORS
AND SUPPORT CENTRES IN MORE
THAN 75 COUNTRIES

Camozzi has specialised in the field of pneumatic automation since 1964. Our product range has evolved continuously and we now design and manufacture a comprehensive range of highly advanced components and pneumatic systems.

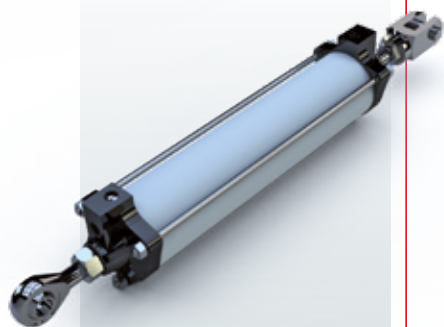
Our objective is to satisfy our customers' needs through the provision of innovative and high quality solutions, which are produced using optimised production processes and supported by excellent pre and post sales assistance. The passion and enterprising nature of the company's founders, the Camozzi

brothers, has always guided the business, leading to sustained growth and a global presence. One of our guiding philosophies is to be close to our customers throughout the world as we believe this is fundamental in the building of successful partnerships. It is through these close customer partnerships that we provide quality components which are in accordance with local regulations and standards. Every product and solution offered is fully supported through our global infrastructure, which ensures we are proactive in providing solutions and quick to meet the needs of every customer.

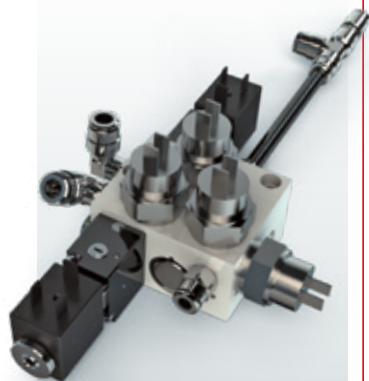


Bus & Coach

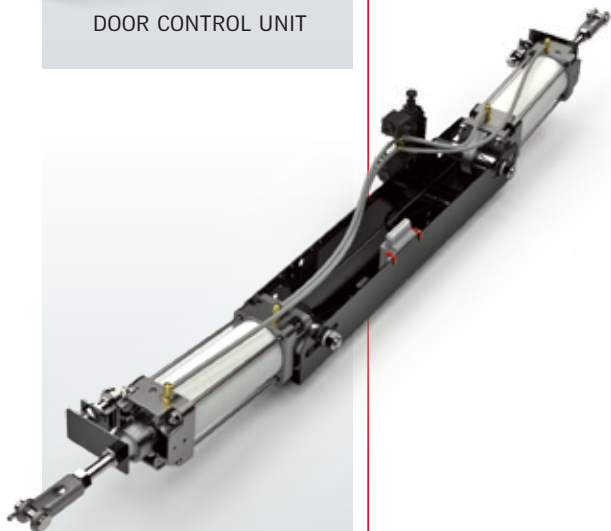
A long journey with safety and comfort



DOOR CYLINDER



DOOR CONTROL UNIT

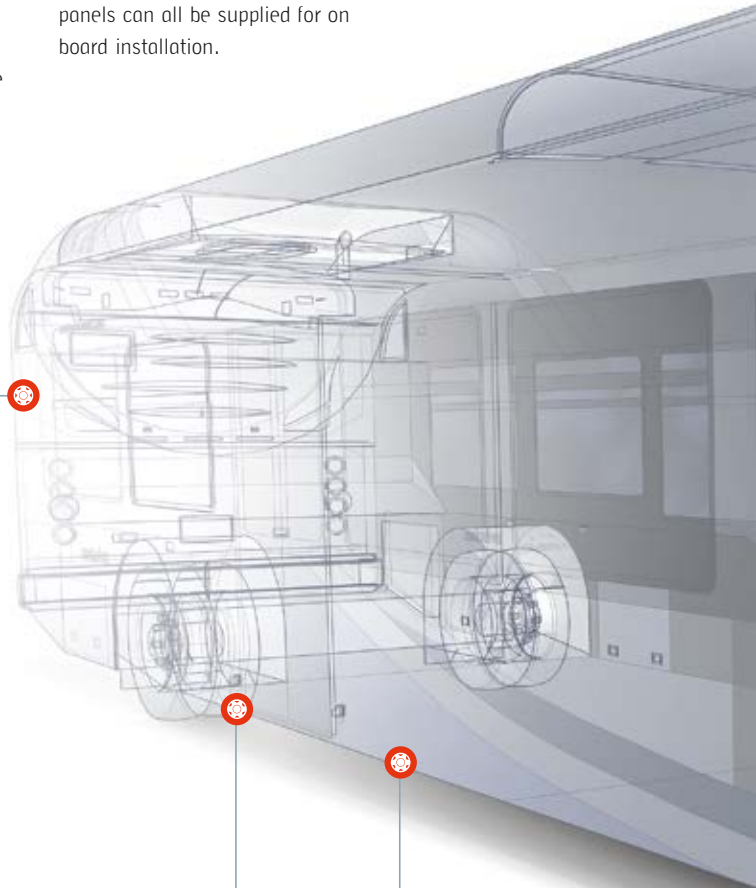


DOOR SYSTEM

Buses and coaches offer one of the most efficient and flexible means of transport. The extensive road infrastructure already in place, which can be shared with other vehicles, means more freedom is available in terms of the services which can be offered. Socially and environmentally they are therefore important as a balance can be achieved between urban development and sustainability. Camozzi has many years of experience within this sector and supplies many of its leading names with components and systems that are easy to install and maintain.

The wide range of solutions offered also benefit from being efficient, suitable for use in many different environments and insensitive to variations in tension and voltage. In addition to the components included in our catalogues, special solutions are also available to control the opening and closing of doors, suspension systems and seats. Locking systems, valves for air conditioning systems, fittings for braking systems and pneumatic panels can all be supplied for on board installation.

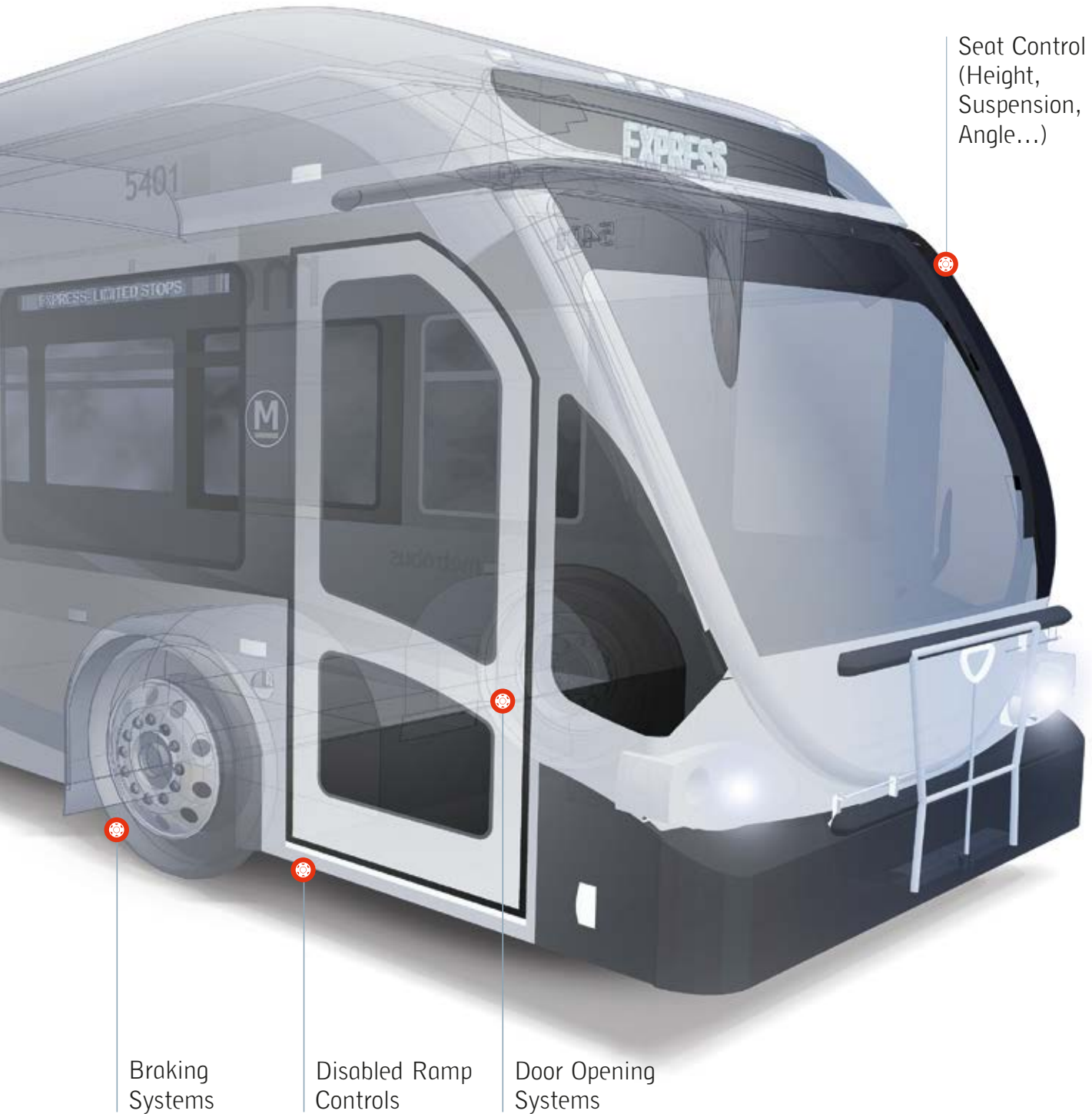
Locking Systems



Clutch Valve

Valves for Air Conditioning Systems

Locking Luggage Compartment



Seat Control
(Height,
Suspension,
Angle...)

Braking
Systems

Disabled Ramp
Controls

Door Opening
Systems



Railway

Our quality at the service of efficiency



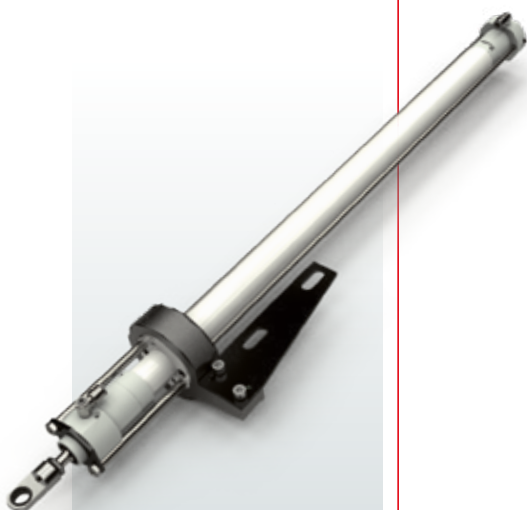
BREAKING CONTROL SYSTEM

The key factors currently influencing the demand for railway transport include the need for greater consumer mobility, the introduction of standards to reduce CO2 emissions, energy efficiency, road traffic reduction in cities and steadily increasing fuel costs.

The pneumatic and electromechanical components used on trains, subways and their infrastructure are designed specifically to satisfy strict requirements in terms of safety, reliability, efficiency and operation in the harshest of environments. Our standard range of pneumatic

components is enhanced by versions suitable for the railway sector.

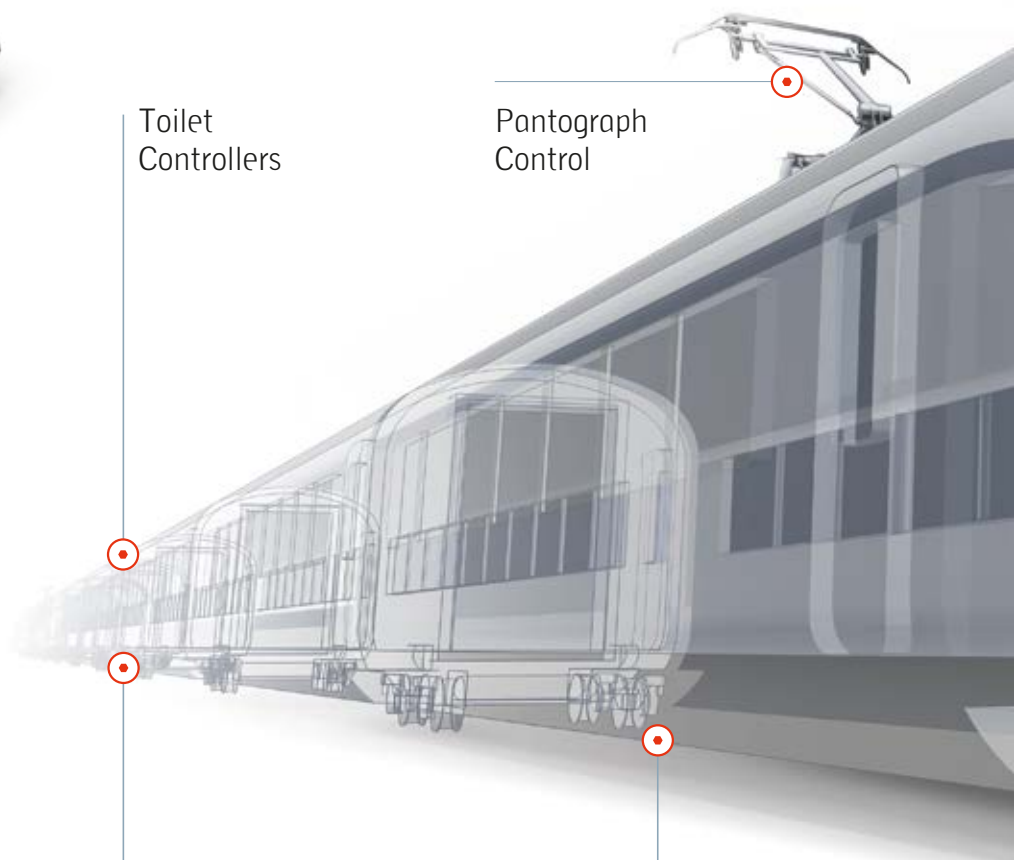
For example, low/high temperature cylinders for mobile platforms, coupling and movement systems. Other components for the railway sector include valves with a wide operating voltage range, fittings for braking systems and proportional valves that can be used for the regulation of lubricants, air and water flows. In addition to the solutions included in our catalogues we also have the expertise to design and produce customised integrated systems and plug and play solutions.



DOOR CYLINDER



DOOR CONTROL UNIT

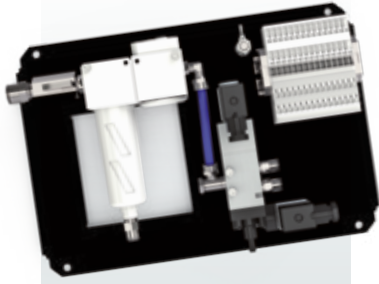


Toilet Controllers

Pantograph Control

Coach Engagement Systems

Water and Waste Water Monitoring



AIR TREATMENT UNIT



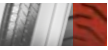
Drying Systems

Integrated Door Opening Systems

Air Conditioning Systems (Hot and Cold)



Braking Systems



Off Highway

*Reliability over time
to improve productivity*



CONDENSATE DISPOSAL

Off highway includes some of the most challenging applications e.g. agricultural, earth moving and military vehicles to name only a few. The most important requirements in this area are efficiency, versatility and reliability so that maximum productivity can be achieved regardless of the working conditions. At the same time it is also necessary to guarantee maximum comfort and safety for the driver. The standard range of Camozzi components has been designed and tested to fulfil the requirements of this very demanding and complex sector. Examples include valves and compact systems to control seats and suspension systems; components

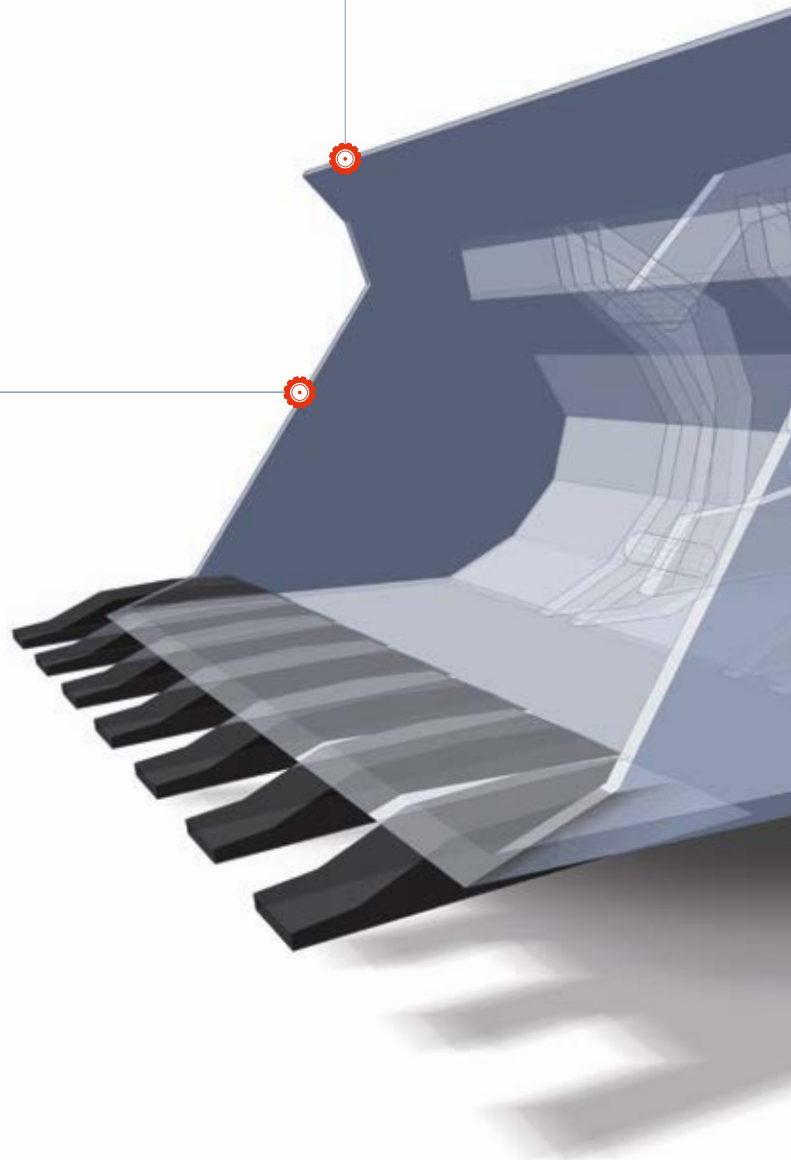
and systems to control mechanical arms; the opening and closing of doors and roofs; the regulation of air flows and braking systems. Camozzi is an ideal strategic partner in this area for the design, production and assembly of innovative, efficient and quality solutions to satisfy individual customer needs.

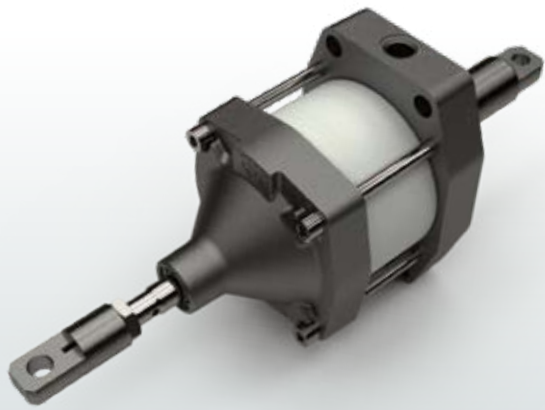


TYRE PRESSURE CONTROL UNIT

Lifting Systems
with Radio Control

Locking
Systems





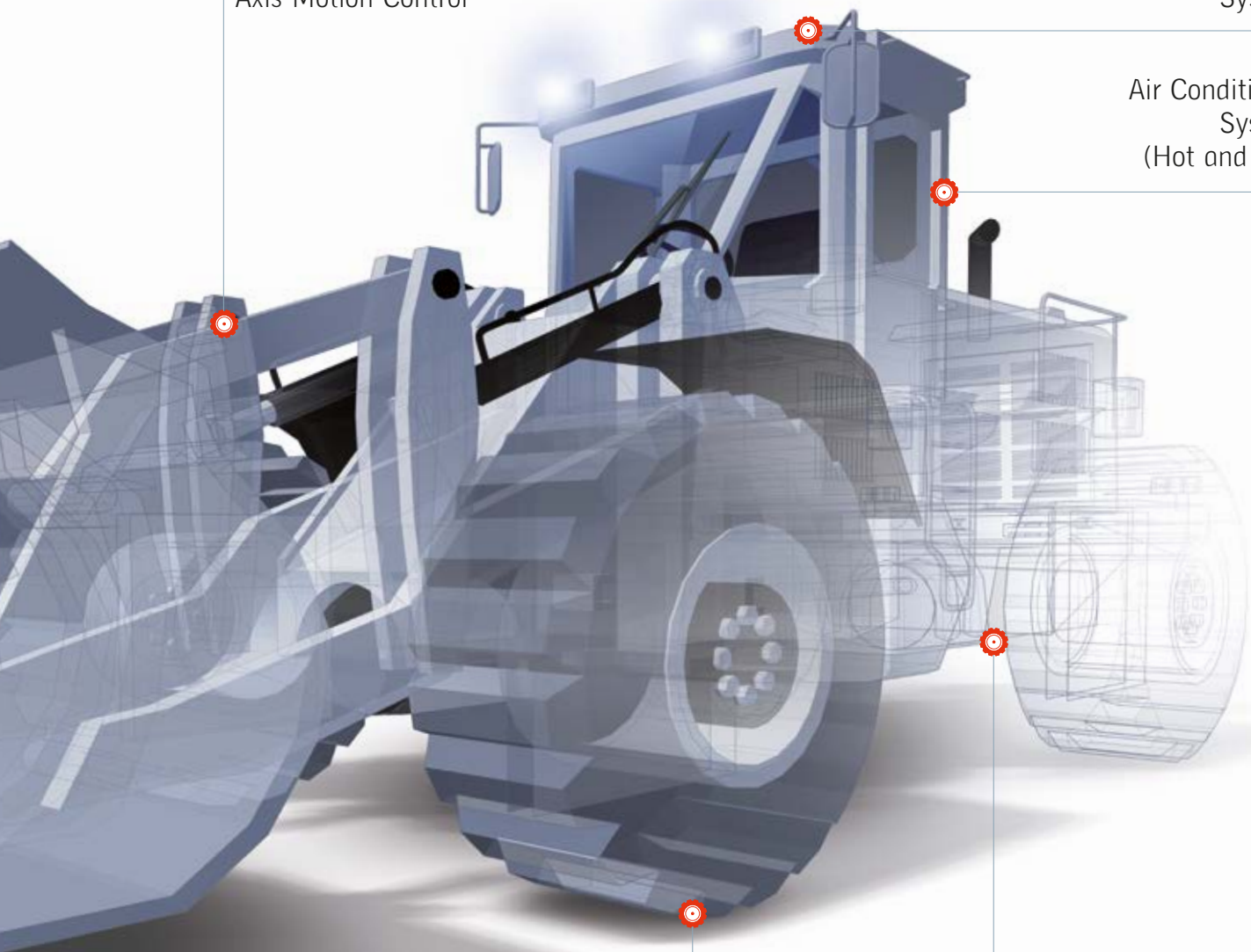
BRAKE AND CLUTCH CYLINDER



Axis Motion Control

Sunroof Opening Systems

Air Conditioning Systems
(Hot and Cold)



Braking Systems

Compressed Air Treatment

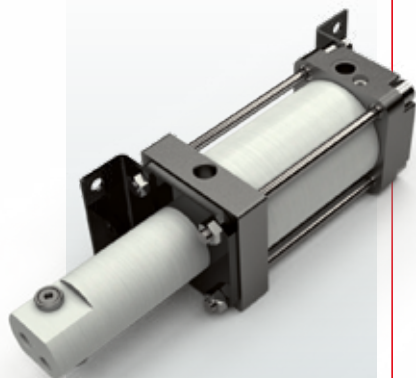


Truck & Trailer

*Safety and practicalness
 at your service*

Road transport is one of the most diverse sectors and this is made apparent when you consider the many different operating and climatic conditions that can exist; the evolving standards to reduce polluting emissions and the ever present requirement for safety, comfort, energy efficiency, all of which are now regarded as prerequisites. It is for these reasons that Camozzi components have been designed and tested to perform in many different scenarios, for example, whilst being subjected to intense vibration and wide variations in temperature.

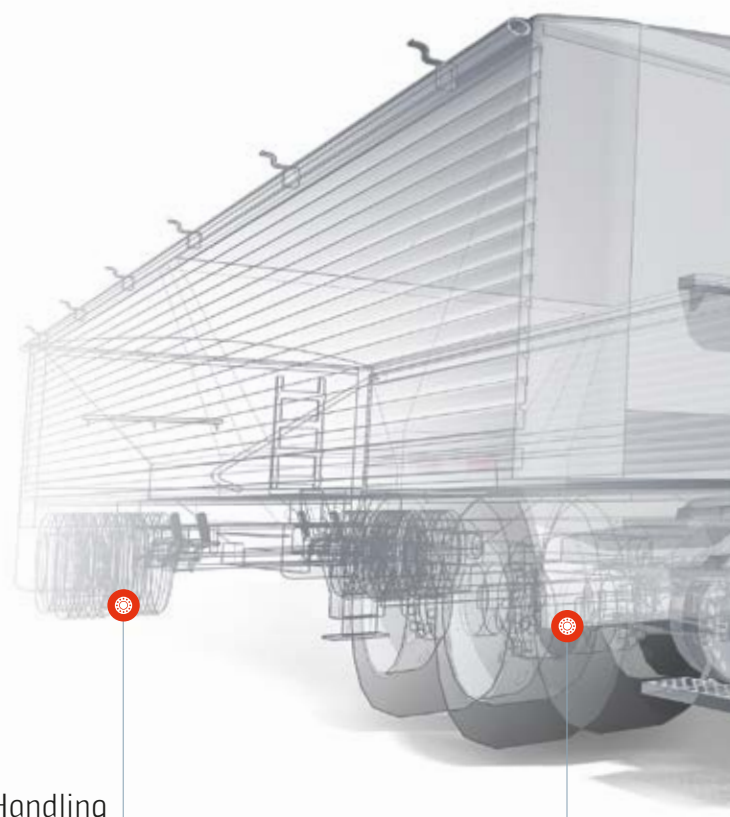
Valves are supplied into this sector to control cooling fluids and suspension systems. On board FRL assemblies and fittings are also available along with cylinders for the actuation of lifting and coupling systems. Customised solutions to satisfy specific requirements or integrated mechatronic systems can also be supplied that can be quickly configured and connected.



PNEUMO-HYDRO
 LIFTING CYLINDER



CONTROL UNIT



Lifting and Handling
 Engagement
 Systems

PTO Power Take Off

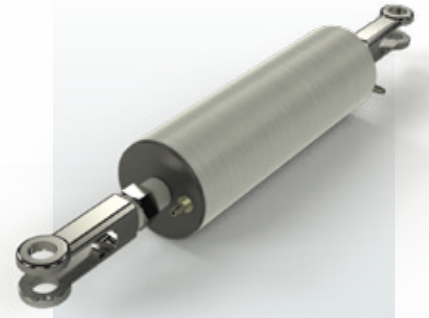


Air Conditioning

Seat Control
(Height, Suspension, Angle...)



CONTROL VALVE



POWER TAKE-OFF CYLINDER



Compressed Air
Treatment

Cooling Fluid
Control

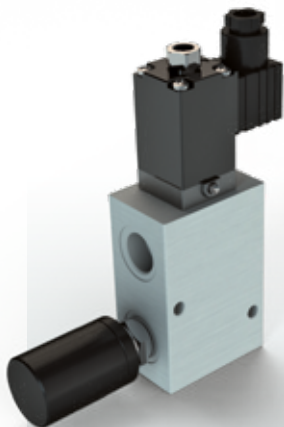
Braking
Systems

Suspension
Control

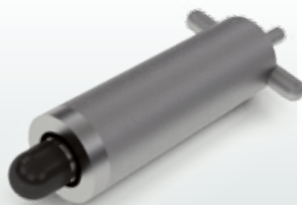


Off road & car

Technology and design on and off road



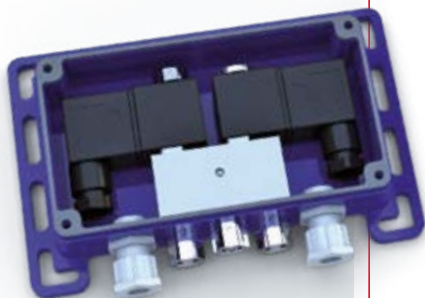
CONTROL VALVE



LOCKING CYLINDER



POWER TAKE-OFF
CYLINDER

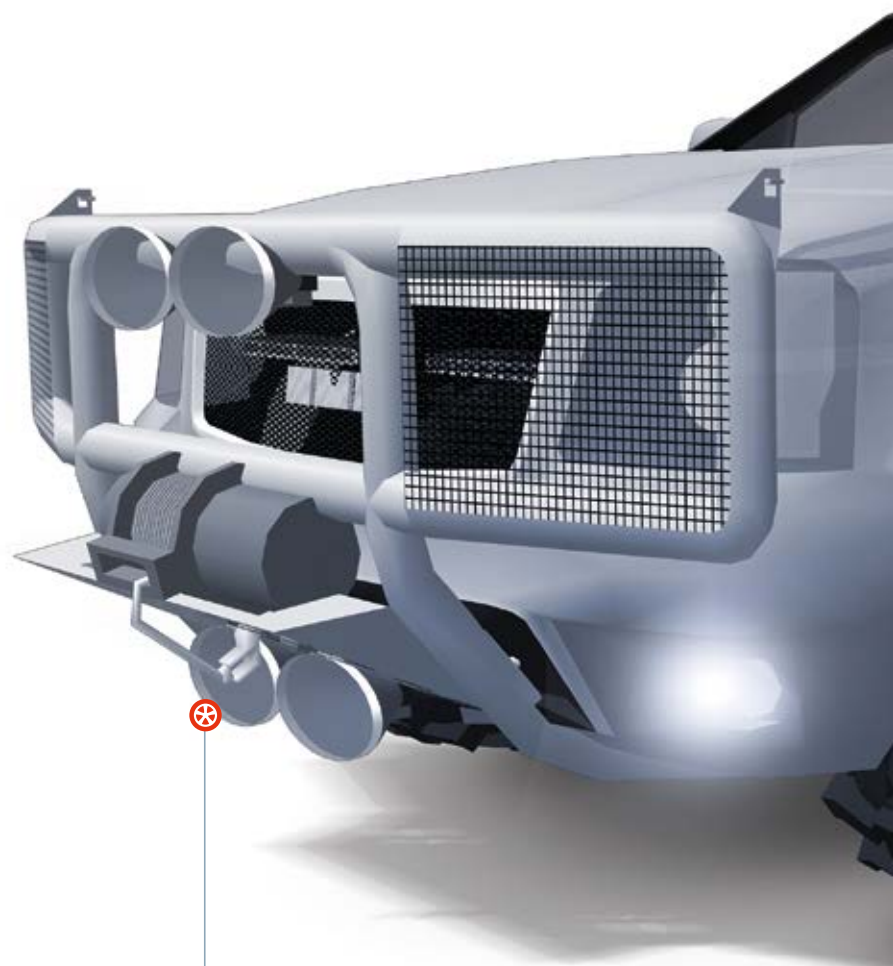


CONTROL UNIT

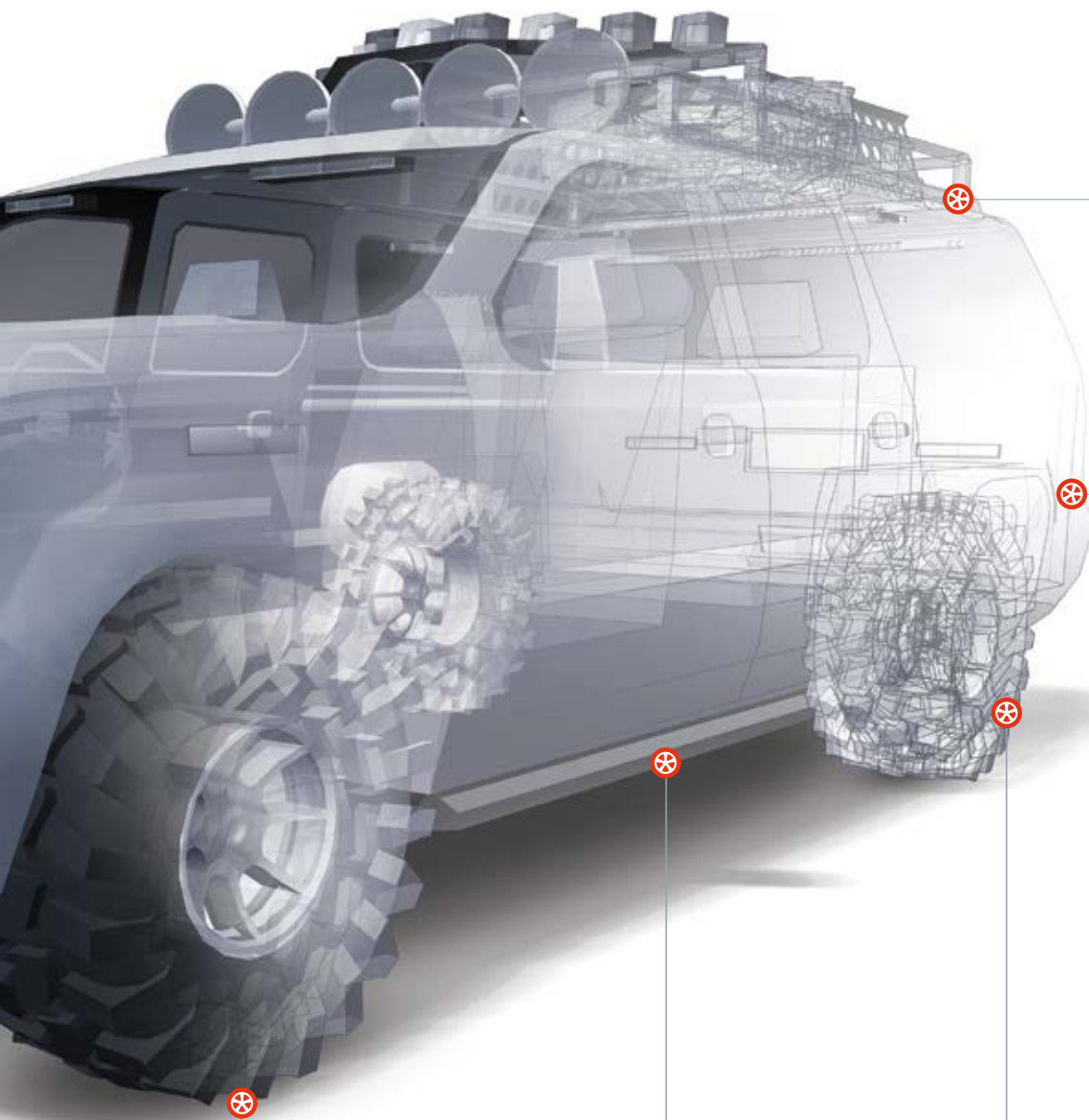
The automotive sector has always been characterised by technological innovation, both in terms of processes and organisational models. The main drivers for the development of 'on board' components are the growing demand for reliability, safety, efficiency and eco-sustainability. Also, any components used to realise machinery/ equipment has to guarantee an advantage in terms of optimised production cycles, efficiency and reliability throughout the entire life cycle of the product. A wide range of components are available for

the control of flow and movement e.g. individual valves, proportional valves and valve islands which have been developed to offer compatibility with the main communication protocols so that high performance is always guaranteed. Maximum reliability is also offered with our C_Truck fittings, designed specifically for braking systems.

Camozzi is a potential partner that is fully equipped to co-design solutions that are customised to meet exact requirements. Every solution offered is then fully supported through our global infrastructure.



Engagement
Systems



Lifting System
with Radio Control

Suspension
Control

Seat Control

Braking Systems

Tire pressure
Regulation



Focus areas



① Motion & Control

Moving while constantly controlling performances and precision of the entire system. This is the target that Camozzi pursues, proposing complete systems in which mechatronic integration of components also includes sensors and diagnostics. The development of the main communication protocols, remote control combined with the most advanced pneumatic

technologies allow to obtain maximum efficiency from every work unit or system. Optimization of the solution starts in fact with the research of a compact design with reduced dimensions and weight and especially with the most practical modalities of installation, functioning, control and monitoring of the conditions of the system in order to reduce maintenance.



② Safety Automation

Offering complete solutions means for us to guarantee "Total Cost of Ownership", i.e. the maximum reliability and safety during the whole product life. To guarantee safety of the pneumatically-operated equipment installed and to operate according to the "Total Quality Management" also means that we can demonstrate our commitment thanks to the International certifications that we have achieved.

Every equipment is designed and produced according to the main International regulations' parameters protecting the system and the user himself. Our labs are equipped to make specific tests on special applications according to the customers' requirements and according to the main standards (for ex. . EN 60068-2-1, EN 60068-2-2, EN 60068-2-30, EN 61373..) making resistance, temperature, shock and vibration tests.



③ Energy saving

Energy saving is a common value in every development activity related to the Camozzi products. The use of pneumatically-operated solutions made up of reliable and heavy-duty mechanical components, precise

integrated electronics, excellent material and design is a guarantee of energy saving for the user. Camozzi is also really sensible to production process optimization using more and more renewable energy.

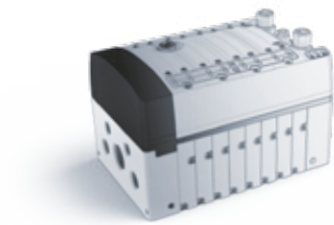
Product Family



• *Movement*

Camozzi offers a complete range of actuators that includes minicylinders and ISO profile cylinders which are compact, stainless, guided, rodless, rotary, integrated with position transducer and products for handling.

The entire range is completed with accessories for fixing, sensors, guides, brakes, rodlocks, shock absorbers and all that can optimize its use in a pneumatic circuit.



• *Control*

Control elements represent the core of a pneumatic circuit in which precision and reliability can make the difference. Camozzi guarantees the best quality and efficiency thanks to pneumatic valves, solenoid valves and valve islands which are available in different

sizes and with different flows to meet the needs of every sector. For applications that require accuracy, a quick response and optimization of control, a series of products have been developed with proportional technology for pressure, position and flow control.



• *Treatment*

Often the efficiency of a pneumatic system depends on the air composition that enables the movement. It is therefore essential to use modular FRL units, that include filters with different filtering levels,

with activated carbon, coalescing filters, regulators, lubricators, interception valves and soft start valves, derivation modules that Camozzi can provide in pre-assembled groups and together with accessories.



• *Connection*

More than 50 years of Camozzi's experience in producing fittings and connecting elements guarantee quality and reliability. The standard range includes rapid, super rapid and universal fittings together with accessories and quick-release

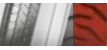
couplings made in brass, technopolymer and stainless steel. The range is accompanied by a series of solutions that have been specifically studied to guarantee optimized dimensions and flows for every application.



• *Vacuum*

Camozzi's product portfolio is completed with vacuum components, ideal where automated movement requires quality products, able to guarantee a perfect tightening over time: flat and bellows suction pads,

of different shapes and sizes, compact and in-line ejectors, flexible nipples, spring plungers, check / shutoff valves, electronic and compact pressure and vacuum switches with extremely reduced dimensions.



Complete solutions for automation

C_Transport provides solutions which are designed, developed and tested in exact accordance with customer specifications

A wide range of high quality and modular products are available which are fully tested in accordance with customer specifications, even for equipment that has to work in extreme temperatures, with shocks and vibrations, umidity and different voltages. Our technicians provide support during the development of project solutions and after sales services throughout the world, making us the ideal partner for demanding and high added value projects.

Compact technical solutions

When designing components our focus is always on performance and on the optimisation of dimensions. It is this focus that enables us to deliver compact pneumatic modules and circuits that guarantee high speed, excellent flows, low consumption, reduced weight and clean design.

Integrated technical solutions

With Camozzi's experience, pre-assembled solutions can be provided which reduce installation time. Maintenance time and costs are also reduced due to the high reliability of each solution.

Special

*Customised solutions
Pre-assembled kits
Panels and systems*

Our "Lean Philosophy" enables us to ensure production flexibility whilst the extensive technical knowledge residing at the Camozzi Research Center means we are fully equipped to deliver customised solutions, combining electronics and mechanics, which are developed by working closely with each customer.



Standard

A range of components that can be integrated and assembled to cover a wide variety of requirements



Series 61 cylinders - Aluminium profile



Series 40 cylinders



Series 9000 C-Track fittings



Series MX Modular FRL Units



Series AP proportional valves



Series 3 valves and solenoid valves



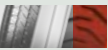
Series 6 solenoid valves



CP2, CC2 and CD2
Individual Fieldbus Nodes



Series PL micro-solenoid valves



Solutions for mobile automation

 **C_Transport**



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Automation

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