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**THE DOCKER**

an electrically assisted horse-drawn carriage
to facilitate the introduction of horses into the urban and rural environment
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On Friday, October 5, 2012, the Municipality of Mâcon, which for several years has been involved in various activities concerning the use of horses in public areas, will provide the setting for the national presentation of a new electrically assisted horse-drawn carriage concept known as the Docker. This novel solution facilitates the horses’ work and opens the way to numerous future applications.

Horses are today making their return to the urban scene for use as part of council street crews or police teams and have been deployed by more than 120 districts, with a good example being Mâcon which operates a horse-drawn refuse collection and plant watering service and a mounted police unit comprised of three horses.

As society became increasingly industrialised, the use of horses was abandoned in favour of motorised vehicles, with horses being restricted to horse riding and sporting activities. However, horses have gradually become the subject of renewed interest through their use for horse-drawn tourist carriages and forest work.

Modernising and underpinning the use of animal traction power combining ecology with innovation, efficiency and the well-being of the animal.

Economical and ecological, while also promoting integration and a strong social bond, the use of horses in the town helps create a positive and attractive image for the area. Encouraging local social contact between council employees and residents, it brings the community that bit closer to socially isolated or disabled people. Horses blend in harmoniously with their environment, being discreet, environmentally friendly and pleasing to the eye.

Genuinely versatile, the Docker can be used for numerous applications in the community, and more too! It can be adapted to any kind of horse-drawn carriage and is consequently also suitable for use in tourism activities for example.

The Docker in brief
This is the ideal companion for any working horse thanks to its electrically assisted features derived from the field of electric bicycles, making the horses’ work so much easier.
THE DOCKER: TECHNICAL DETAILS

docker
an electrically assisted horse-drawn fore carriage

The upkeep of parks and gardens
Waste collection
Watering flower beds and flower boxes
Local transport
Swooping squares and pavements
Training
Leisure and tourism

Comfortable
A single horse to be managed by the coachman and a balanced effort for the horse

Economical
The ability to haul heavier loads and for longer periods

Ecological
Environmentally friendly engineless transport

Educational
A useful training and awareness building tool

Image-enhancing
A responsible and innovative operator

Hardwearing, powerful and sturdy, this vehicle is built for work and is the ideal companion for any horse used out on the road. Using horse traction power and the concept of electrical assistance, it is aimed at local authorities adopting a modern and ethical approach to their work.

Offering easy access, it is a joy to use for council staff who often take great pleasure in discovering all the fun and relaxation of working with a horse.

Highly versatile, it can be adapted to your range of existing equipment and to all kinds of accessories designed for horse drawn transportation.

Our objective: To modernise animal traction and to establish its credibility today through an initiative combining technology, ecology, profitability and well-being for the horses.
The electrical assistance concept is derived from the field of electric bicycles. This is not intended to replace the horse but, just like the electric bicycle, to provide valuable assistance when the going gets tough. Equipped with a system which measures and amplifies the pulling power supplied by the horse, it imparts power and endurance to the vehicle. The coachman continually monitors the operating parameters and can give an inexperienced horse the impression that it is actually pulling a much lighter load. Conversely, an experienced horse will only require assistance when short bursts of strength are needed. Downhill sections of the journey are used to recharge the battery by means of an electronic braking control system.

Welded metal frame with foldout metal floor
Sloping bottom support
Self-steering front wheels on a suspended swinging support
Pedal-controlled drum brakes, plus hand brake
Removable rear steps
Connection of the trailer section by means of a height adjustable ball/pin assembly
Interchangeable sole bars and drawbar with limited articulation

Swinglotrosc: equiFORCE250
Motorised axle: 48VDC4kW
Battery: LiFePo4 48V 50Ah
THE RETURN OF THE HORSE
AN INEVITABLE BUT AS YET HESITANT TREND

The return of the horse in both the town and the countryside: an inevitable but as yet hesitant trend

A survey carried out in 2010 at the request of the French National Stud showed that 73% of the French population would like to see horses back in town. Their return is considered desirable for a number of reasons including the rehabilitation of disabled people (93% of those interviewed), the upkeep of parks and gardens (82%), the creation of tourist trails in towns (79%) or the creation of mounted police units (71%).

Despite this, although there is a clear demand from the French population and although the image of the horse is constantly improving (as demonstrated by the current popularity of horse riding), the number of towns that are involved in this equine renaissance is relatively few at around 150 towns of all sizes. This is quite a low number, even if our European neighbours in Belgium, Switzerland and Germany envy the progress we have made and point out that we are leading the way for other countries in this field.

The return of animal traction is fine but the well-being of the horse must be guaranteed.

The return of the horse can only be achieved on a large scale if human intervention guarantees the well-being of the animal. A renaissance in the field of animal traction will therefore not mean a return to the conditions of the 18th and 19th centuries as some may fear. Completely the opposite in fact, as this return will involve modern practices, with horses being used under economic, ecological and ethical conditions, failing which no such return will take place.

In other words, the horse will make an effective and sustainable return in those niche activities in which it is economically more profitable than its competitor, today’s motorised vehicles. It will also earn a place for itself because quite simply it generates less pollution and is more environmentally friendly.

The horse will only return among us humans and our activities the day we are able to create a fair environment for its return, which guarantees its well-being.

In this way, as one of mankind’s oldest companions, the horse can share in the future development of our society, which is today slowly dying through excessive anthropocentrism.
MÂCON: A TOWN SYNONYMOUS WITH HORSES

The Municipality of Mâcon has chosen to focus on horses in all their forms through the introduction of services such as minor waste collection or public order protection services and the expansion of its equestrian centre.

**Horse-drawn refuse collection services**
In late 2009, the Municipality of Mâcon launched an original and ecological means of emptying bins in the town: a horse-drawn refuse collection service which has also been given the task of watering the town’s 900 flower boxes.

**Police horses**
In May 2012, the Municipality of Mâcon launched its mounted police unit, the first of its kind in the Saône-et-Loire area, as part of its local policing and crime prevention policy. This initiative, which has proved popular with the public, offers an attractive way to see the police, bringing residents an added sense of safety and security.

**High-level equestrian competitions**
Since 2011, Mâcon has hosted an International Showjumping** competition in its equestrian centre. Thanks to the success enjoyed by this event, in 2012 no fewer than five regional, national and international competitions are being held here.

**Improving the social integration of disabled people**
Mâcon works to guarantee integration for its disabled citizens on a daily basis, especially through sport. As an example, the equestrian centre regularly welcomes groups thanks to its specifically adapted facilities and its specially trained staff.

**Horse riding in the town’s districts and suburbs**
Horse riding as a discipline is today being discovered in all of the town’s districts and suburbs on Wednesdays and during the school holidays, when schoolchildren have a chance to discover the fun of horse riding free of charge. Groups are also welcomed in the equestrian centre all year round.

For horse drawn refuse collection and for the provision and training of police horses, the Municipality of Mâcon has chosen to work with a service provider, the local company ChevalCité, which provides horse drawn services in urban and rural environments.
Municipal horse-drawn services and high technology: a new alliance to usher in the successful return of the horse

Founded in 1994, the Swiss company Meterus supplies engineering equipment and services in the industrial instrumentation field. From the definition of specifications through to maintenance, Meterus also proposes a solution for the technical documentation of facilities.

Since 2006, the company has been diversifying and expanding into an exciting form of renewable energy. This is horse energy, and the goal is to modernise and enhance the credibility of animal traction through an approach combining technology, ecology, profitability and the well-being of the horse.

This diversification got underway in 2006 with research into ancient literature and records concerning stress, speed and loads, resulting in the presentation in June 2009 at Château-d’Oex (Switzerland) of the first functional prototype of an electrically assisted horse-drawn vehicle. This prototype made it possible to get the concept approved and to identify future areas for development. Since then, the assistance systems have been completely redesigned. As an example, the force sensor has now been transformed into a swingletree.

The innovation aid granted in 2010 made it possible to lay the foundations for a fruitful partnership with the Fribourg engineering school, culminating in the development of the electric motor and above all of the operational algorithms designed to assist the horse in his task.

The current prototype, based on a four-wheeled fore carriage manufactured by the French company Bernard Michon Hippomobile, was designed for working in urban and rural environments. Highly versatile, this type of vehicle offers the advantage of being able to use existing trailers and other resources. The electrical assistance system can also be adapted to all kinds of horse-drawn vehicles such as horse-drawn tourist carriages.
Whether used for council work, horse-drawn tourism or as an educational resource, the applications making use of horse energy are many and varied.
The first deliveries of electrically assisted horse-drawn vehicles are scheduled for 2013!

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Bernard Michon has been a craftsman and master metal worker in Azé in Saône-et-Loire [Burgundy region] since 1985. Coming from an agricultural background with a passion for animal and mechanical traction techniques, he has been involved in the metal industry from a very early age. However, it was in 2009 that he took the decision to embark on a new stage in his career, focusing his work as a master metalworker on developing horse-drawn transportation. And so it was that after around 30 years spent working in the construction sector (metal frames, aluminium fittings, locks, glazing, closures, etc.), he decided to combine his passion for horse riding and his career as a metal worker by devoting himself to the task of designing and marketing animal traction equipment.

His initial participation at the French agricultural show in 2009 gave him a chance to identify the needs of various potential users. He then set about creating a range of useful, safe, easy-to-use horse traction equipment offering maximum comfort for both the animal and the coachman. This equipment is used in towns, vineyards and also in forests.

Bernard Michon manufactures his equipment at Azé. The company has three staff including Bernard Michon.

In partnership with the CERRTA, Hippotese, the National Stud and Chevalcité [of which he is a partner], an animal traction service provider working in particular with the Municipality of Mācon, Bernard Michon is in permanent contact with the realities of life out in the field, enabling him to carry out intensive testing of his equipment over time and to improve and fine tune it where necessary.

Numerous towns have adopted his equipment. Examples can be seen here in Mâcon, with a four-wheeled container transporter, but also in Cluny, Mably, Saulieu or Lyon. Le Haras du Pin is also a client.

Along with the Swiss company Meterus, he is the designer of the Docker, a hybrid, electrically assisted horse-drawn vehicle.

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Equilogie, a company from Burgundy specialising in studies for the horse riding industry has decided to participate in this initiative in two ways:

One of Equilogie’s key skills lies in answering some of the questions posed by public decision-makers (public authorities) or private decision-makers (such as tourism companies interested in trips in horse drawn vehicles) concerning the technical, economic and ethical conditions of the return of the horse. It was Equilogie for example which carried out the feasibility study for the launch of horse-drawn refuse collection and mounted police services in Mâcon. It was this study which made it possible for the Municipality of Mâcon to subsequently launch a tender resulting in the selection of ChevalCité as its provider of horse drawn services.

A wish to promote and participate in initiatives aimed at encouraging the return of the horse in both urban and rural areas provided the motivation for Equilogie’s contribution to the launch of the Docker, an electrically assisted horse-drawn vehicle. This is because by facilitating the work of the horse, the Docker will help encourage its use in situations in which this is today difficult or even impossible. This can include work in towns, for pulling heavy loads such as vehicles designed for watering plants, in hilly parts of the city for example. In the countryside, to take just one example it can be useful in organising trips in horse drawn vehicles. We are today consulted by both public and private bodies keen to bring people for one or two days to Burgundy to discover the local landscape by horse-drawn carriage. The use of an electrically assisted horse-drawn vehicle ensures that whatever the circumstances, the service provider can be sure of a horse-drawn carriage passing by, able to carry up to 10 people while guaranteeing the well-being of the animal.

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MÂCON, AN EASY-GOING TOWN

Mâcon is a fast-growing town thanks to its geographical location and its dynamism.

As the most southerly of the Burgundy towns, Mâcon boasts an outstanding geographical location, a vibrant economy and a constantly changing town centre with plenty of shops and heritage sites.

A particularly pleasant place to live, regularly winning prizes for its attractive environment, Mâcon is a town in a rural setting, which hosts events all year round.

Mâcon : the capital of South Burgundy

It would be impossible to discuss Burgundy, the land of fine living, without talking about cooking. In addition to local culinary specialities (snails, goat cheese, charolais beef and Bresse chicken, etc.), the widely renowned mâconnais wines are a pleasure to drink. With 49 million bottles produced annually by almost 5,000 hectares of vineyards, it should come as no surprise to learn that each year Mâcon hosts the Grand Concours des Vins de France wine competition!

Le Grand Mâcon (Greater Mâcon) is a particularly attractive employment and business area thanks to its industrial, retail, service sector and agricultural base. In 2012, the Cité de l’Entreprise town centre business park welcomed its first companies, enabling Mâcon to move in an exciting new direction.