



**Snow tank volume**  
3 m<sup>3</sup> / compacted 3.7 m<sup>3</sup>



**Water tank volume**  
1,000 l or 1,350 l  
+ Snow tank-water tank connection  
2,000 l or 2,350 l



**Blade width**  
2,100 mm or 2,300 mm



**Fields of operations**  
Pro / Heavy



# STADIUM EFFICIENCY

Powerful drive with electric engines together with a large snow and water tank capacity: The WM Shira has been purpose-designed for resurfacing stadiums. It boasts an immensely impressive price/quality ratio and, on request, can be fitted with countless extras. WM Shira. The perfect partner for professional resurfacing of ice surfaces of up to 1,800 m<sup>2</sup>.



WM Shira  
Iceforum Latsch

*„The WM Shira has everything we need to resurface the ice in our stadium to perfection. We are absolutely delighted with it!“*



**Louis Eberle**

Ice expert at the Ice Sports Centre  
Oberstdorf / Germany



## HIGHLIGHT

# ***EVERYTHING UNDER CONTROL IN THE DRIVER'S CAB***

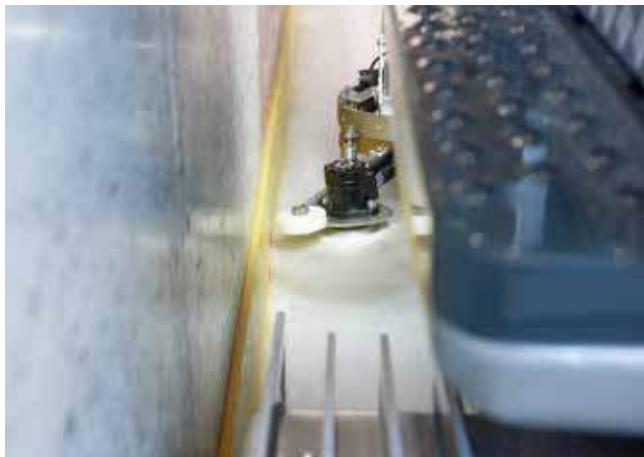
The WM Shira is a guarantee of outstanding comfort for the driver and boasts a full, unobstructed view whether you're driving cabin-free or with all-round glazing. Three steps provide easy entry to the vehicle. All important information is clearly visible at a glance on the high-definition colour display, and all the main functions are keyboard-controlled. At a simple press of a button the automatic mode begins all work operations in a pre-defined order.





## ***INTEGRATED EDGER FOR END-TO-END RINK PERFECTION***

The edger is fixed to the body of the WM Shira, guaranteeing you outstanding stability and performance. It can be operated easily and safely from the driver's seat. The innovative horizontal spring-loaded system with guide wheel ensures that the edger follows the contours of the rink to perfection, and planes the ice evenly, rapidly and cleanly. Edging and subsequent cleaning of the ice surface with the swivel brushes can be carried out in one simple step. The edgers are positioned between the axels and in front of the brush, to ensure an unrestricted overview of the vehicle. When not in use, the edgers are stored between the wheels, and do not affect operation in any way.







zÜKO

www.zueko.com

EUROBUS

33

Müller-Milch

Müller-Milch

## HIGHLIGHT

# ***FUN ALL THE WAY: THE PASSENGER'S SEAT***

No other ice resurfacers have it - anybody who wants to see a specialist at work close-up can sit comfortably by the operator's side. The passenger's seat is also a wonderful marketing tool, as it gives the spectator the chance to see the rink from a new perspective during the break. A competition or raffle prize never fails to add an extra thrill to the game!

Olga catches a special ride to the ice  
#IIHFWorlds 2017



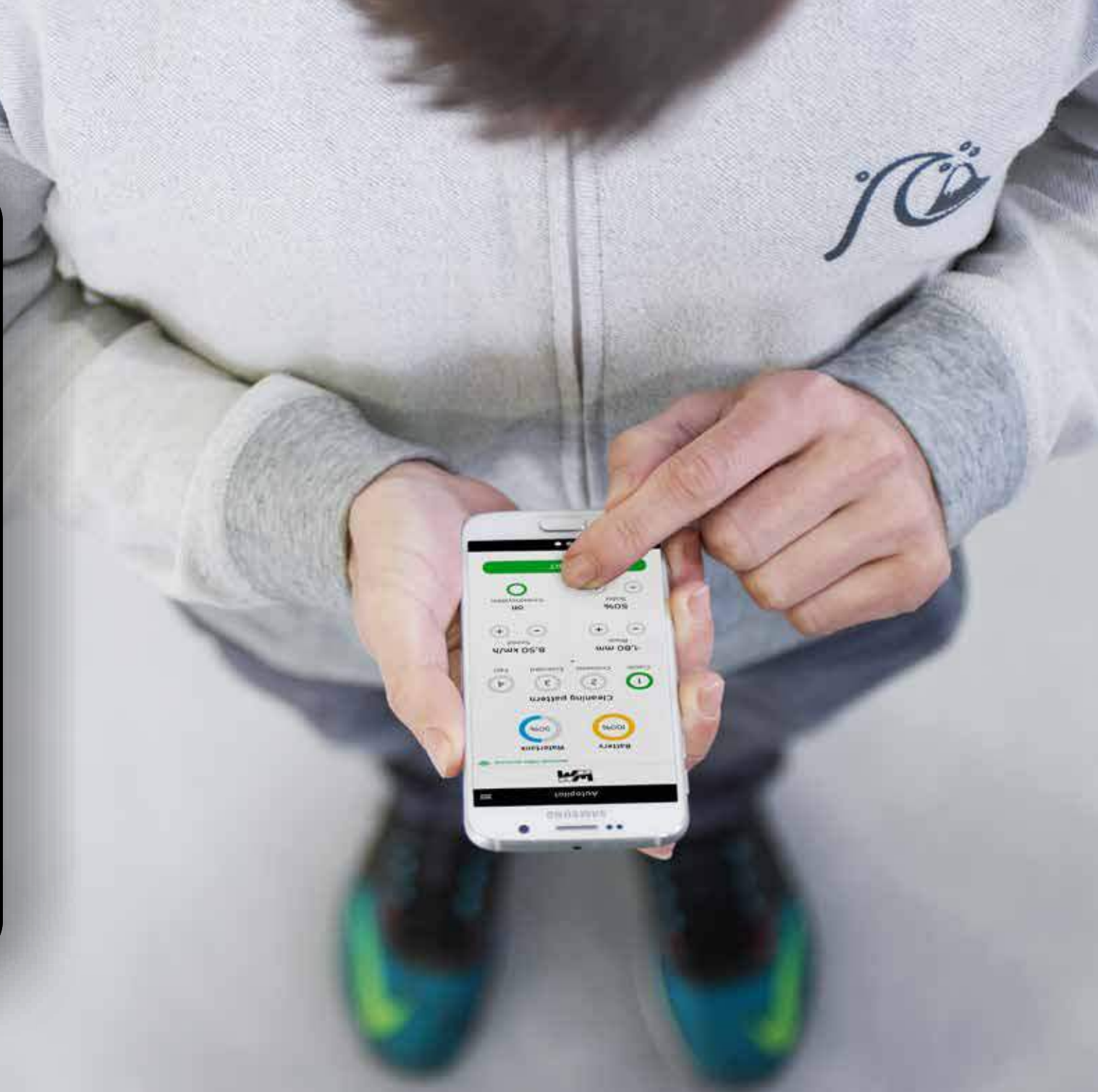
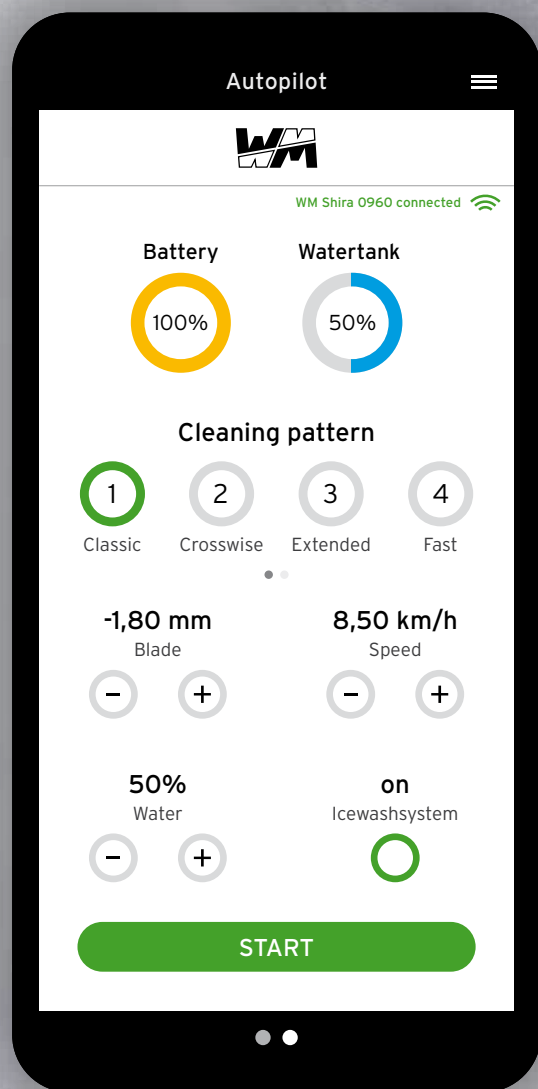
## ***NEED MORE THAN 2,000 LITRES OF WATER? NO PROBLEM!***

When you're building up ice depth or using the water sprayer, more water is a must. The WM Shira has it all taken care of! The water and snow tanks can easily be connected into one water tank with a total volume of around 2,000 litres of water. No more standing in cold water and tiresome tugging on hoses: All operations can be carried out from the comfort of the driver's cab - there's more than enough water to do the job.

Example: 1,350-litre water tank & 1,000-litre snow tank = 2,350 litres of water









## ***THE FUTURE LIES IN AUTOMATION***

The first step towards the future was that of the innovative integrated automatic mode, which activates all operations in a predefined order through the press of a button. With WM Shira autopilot, WM ice technicians have now taken the next leap forward, and automation in the work place has reached a new peak. The self-driving vehicle covers the whole ice rink on a predefined route, and is capable of completely resurfacing the ice rink without a driver. WM Shira Autopilot is controlled by means of an app which displays all important parameters, while the redundant safety system guarantees that the vehicle can be stopped at all times when on autopilot mode. The best assistant an ice-master could ever want!



## BATTERY, CHARGER AND MAINTENANCE



High-performance traction batteries



State-of-the-art battery charger



Battery filling system

The robust, sealed lead-acid battery with tubular plates and the long-life Fronius charging system are a top-quality combo. The charging system is highly intelligent, and automatically recognises the age and state of charge of the battery, and charges exceptionally rapidly, which also means energy savings. Water is pumped rapidly into the battery via the centralised filling system.

**REDUCED ENERGY COSTS** ➤

**LONG-LIFE BATTERIES** ➤

**EASY TO USE** ➤

## MAINTENANCE



The entire engine technology is easily accessible just by lifting the cab. This means that mechanics can carry out their work quickly and cleanly, which in turn saves on time and service costs. Our team also use remote monitoring to keep an eye on your vehicle monitor and rectify any faults which may occur.

**COST EFFICIENT** +

**FREE AND EASY ACCESS** +

**SKILLED REMOTE MAINTENANCE** +

## ELECTRIC



|              |                       |
|--------------|-----------------------|
| Motor        | 5 asynchronous motors |
| Power rating | 29 kW                 |

## FACTS & FIGURES

|                            |   |
|----------------------------|---|
| Battery                    | 80V – 450Ah (standard mode)                       |
| Battery charger            | Fronius Selectiva                                 |
| Battery charger connection | 400V / 16A 5-pole                                 |
| Power consumption          | 400V / 13A  |
| Weight when empty          | 4,600 kg (basic outfit)                           |
| Water tank                 | 1,000 l (optional 1,350 l)                        |
| Snow tank                  | 3 m³ - compacted 3.7 m³                           |
| Transmission               | Continuously adjustable electric four-wheel drive |
| Hydraulic oil tank         | 50 l  |
| Speed                      | 0 - 13 km/h                                       |
| Tyres                      | 225 / 75 / R16 C<br>6 rows of spikes              |
| Wheel rims                 | 9" x 16"  |



**3-year  
Battery guarantee**

## INCLUDED IN DELIVERY



WM Shira



Type-tested vehicle



Fronius battery charger



Battery water filling system



Protective glasses



Blade in transport sheath



Transport sheath for mounted blades



Grindstone



2 wiping cloths



2 rubber mats



Storz coupling C with nozzles  
ø 32, ø 40, ø 50



Fuse set



Set ABS fastening material



Laceration-proof safety gloves



1 set hexagonal socket screws



Tool to adjust and change blades



Key for water filter



Bodywork key



Key fob



Operating instructions

## STANDARD EQUIPMENT

|  |
|--|
| PLC control  |
| 5.7 inch colour display  |
| Button for automatic modus: operations start automatically in a fixed order                                    |
| Function for automatic water filling system with immobilizer (water stop valve as optional)                    |
| Acoustic signal for reverse drive, snow bin cover operation, reverse of the screw conveyors and blade exchange |
| Spring-suspended and height-adjustable driver's seat with armrests   |
| Spring suspended passenger seat  |
| Easily accessible engine compartment (tiltable) with cap support   |
| High performance traction battery with tubular plates cells  |
| Maintenance-free asynchronous motors   |
| Continuously adjustable electric four-wheel drive  |
| Water tank made of PE  |
| Coated snow bin  |
| Snow tank-water tank connection (> 2,000 litres)   |
| Hydraulic negative parking brake   |

|  |
|--|
| Hydraulically driven and swivelling side brush |
| Board guide pulley                             |
| Side mirror, rear                              |
| Snow bin headlight, side headlight             |
| Flashing warning light                         |
| System for water dosing in curves              |
| Constant grinding pressure planing system      |
| Battery charger Fronius Selectiva              |
| Battery water filling system                   |
| 2 blades                                       |
| 2 wiping clothes                               |
| Scope of delivery set                          |



In compliance with Suva-type examination certificate  
Nr. E 7224.e



**Snow tank volume**  
3 m³ / compacted 3.7 m³



**Water tank volume**  
1,000 l or 1,350 l

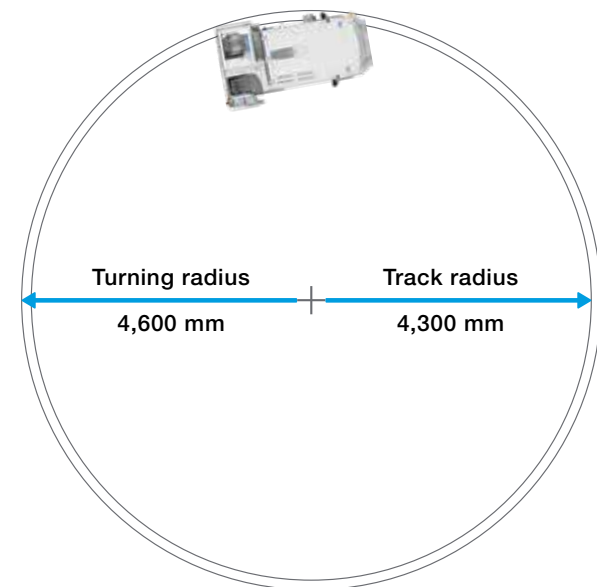
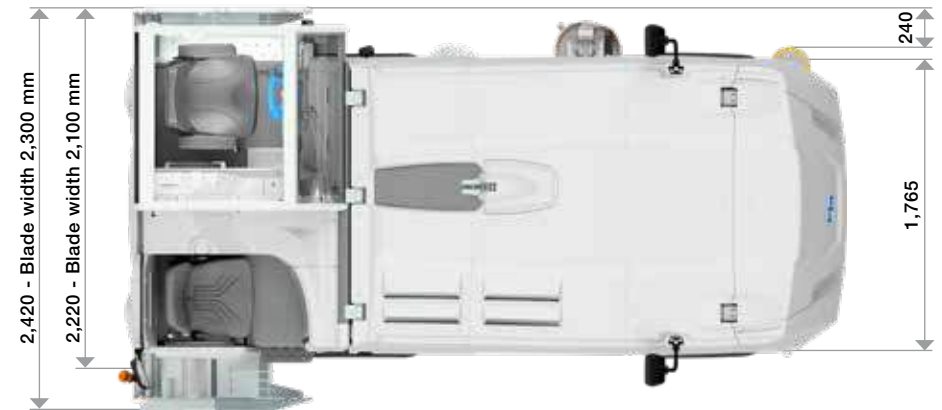


**Blade width**  
2,100 mm or 2,300 mm



**Fields of operations**  
Pro / Heavy

## DIMENSIONS



## OPTIONALS



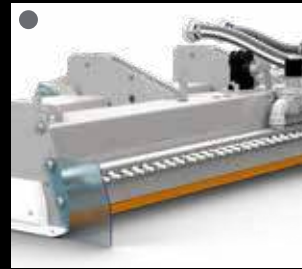
**Edger**  
electric height adjustment



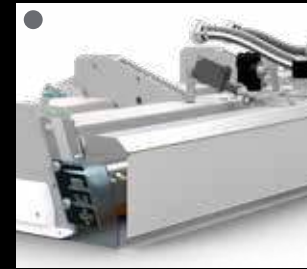
**Proportional water metering**



**Ice wash system Multijet**  
with suction ledge



**ICEplus**  
water spraying system



**ICEplus + electrically powered cloth support**



**Water sprayer**



**Dynamic steered wheel wash system**



**Service brakes**



**Cabin with panoramic windows**



**Cab heating**



**Heated windscreen**



**Heated windscreen and right side window**



**Driver's seat heating**



**Radio**



**LED daytime running light**

## OPTIONALS



**High-beam headlights  
with parking lights**



**Complete lighting system**  
for compliance with  
road traffic regulations



**Divided water tank**  
300 / 1,000 liter  
in stainless steel



**Water tank 1,350 l**  
in stainless steel



**Water stop valve**  
1"1/4 for water filling system



**Snow bin wash system**



**Horizontally screw  
conveyor wash system**



**Vertically screw conveyor  
wash system**



**Electrically powered  
cloth support**



**Side mirror**  
front right



**Side mirror**  
front left



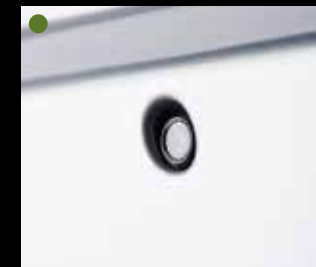
**Heated side-view mirrors**



**Acoustic distance  
warning system**  
front



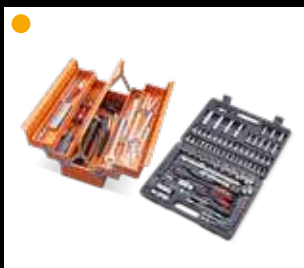
**Front camera**



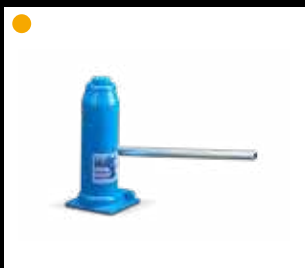
**Rear-view camera**



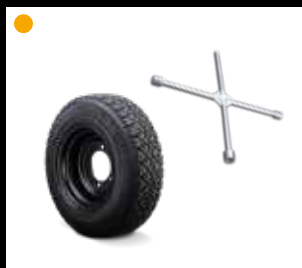
WM Autopilot



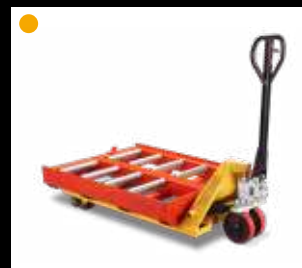
Tool set



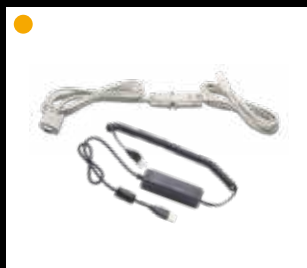
Lifting jack  
with bar 10t



Spare wheel 16"  
with cross-key



Battery trolley



Kit diagnostic cables



Sled tilting device



Optional Battery  
various capacities



Custom colour body  
paint, 1 RAL colour



Wrapping



RGB underbody  
illumination



Groove harrow  
*Curling rinks*



Groove milling unit  
*Curling rinks*

## ATTACHMENTS

## OUR COMMITMENT

### User friendliness

Through the use of top-quality components together with a well-planned design, maintenance work is extremely simple and is reduced to a minimum.



### Quality guarantee

The WM Shira is a product which has been developed, built and assembled in house, from start to finish. Only by doing so can we guarantee top quality and punctual delivery times.



### Detailed operating instructions

You can find all information on operation, maintenance and safety in the operating manual.

### The right spare part at all times

Do you need a spare part?  
We will deliver it to you immediately.



### Service and support

Our well-networked, international team of technicians undergo constant training and will be delighted to help you whenever you require assistance.



### Series production

All WM ice technics vehicles are series-manufactured. We know exactly which parts have been used in each series run, and can deliver the correct spare parts to you at all times. At the same time, a number of optionals can be retrofitted with minimum effort and maximum precision, even years later.

### Quality consciousness

From the manufacture of individual parts right through to the final quality-control inspection: Every step of the process is carried out and monitored with the utmost of precision. Each and every member of our staff is well-trained in his specialist field, and carries out all tasks conscientiously. This is a great advantage for our customers, who can be sure of receiving a technologically sophisticated product which has been manufactured to the very highest of quality standards.



WM SHIRA





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Iceforum Latsch

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Italy



———— Mobil / Event ————



**Compact**

———— Pro / Heavy ————



**evo<sup>2</sup>**