

## SMETS - TECHNOLOGY

Unique water jetting technology for surface cleaning,  
roughening, retexturing  
and demarking



We have more than 40 years of practical experience in maintenance

We are a technological leader in the market

**THIS IS OUR AND YOUR BENEFIT**

### UNIQUE GERMAN "TECHNOLOGY OF SMETS NOZZLES"

- 1) We use high-performance surface water jetting technology **using dispersed droplets of very high speed (dynamics)** instead of conventional blasting technologies, which focus too much on a single location, causing the road surface to be overloaded by direct stream of water
  - SMETS nozzles are rotating in 800 mm cleaning heads at a speed of up to 377 km / h and in heads with a diameter of 1 000 mm at speeds of up to 470 km / h
  - since the water droplets have significantly higher dynamics, we are able to achieve higher cleaning performance and at the same time cause to ANY road surfaces significantly LESS STRESS (with minimal risk of damage)
  - e.g. the Trackjet / Peeljet machines only achieve half the speed of nozzle rotation (up to 198 km / h)
  - competitive ultra high pressure systems achieve appropriate power only with the use of the maximum pressures and water flow achievable through the vehicle system, thus creating a risk of damage to the surface and the machine components
- 2) We are the only manufacturer of **cleaning nozzles made of specially developed hardened steel** supplied exclusively on SMETS model series ARC and MRT
  - by not using conventional (less resistant) sapphire nozzles, we guarantee operators more than 60 % savings on the costs on this most common "wearable spare part"
  - sapphire nozzles last only about 10 hours of intense operations, while the unique SMETS cleaning nozzles are designed for over 70 hours of ultra high pressure operation

## "UNIQUE SMETS SYSTEM" OF THE CLEANING SUPERSTRUCTURE

- 3) We have developed an **extraordinarily powerful ultra high pressure system** that unlike other manufacturers, does not lead to rapid (uneconomical) wear of components and the entire machine, but ensures considerable cost-cutting for the operator and **makes it very easy and safe to operate**
- **SMETS ARC 3400 machine is the world's most powerful machine using the water jetting technology** with a total working width of 3,4 m >> consisting of rear device with 3 cleaning heads with a total width of 2 400 mm, 2 central side cleaning heads with a working width of 500 mm and an ultra high pressure pump with a flow rate of up to 72 l / min
  - allows the control of high operating pressures with a SMETS software instead of valves (as the other manufacturers do), which ensures an exceptionally long service life of the system, as there are no jump pressures that will cause intensive wear and more frequent component damages
  - excels with an intelligent machine management and control system that is highly ergonomic, intuitive and preventative, making it impossible for the machine operator to be mistaken during cleaning with consequent damage to the treated surface of the road or the airport pavement >> any machine operation, regardless of weather conditions and operator's experience is safe and easy, with a 12" centralized cabin monitor and external camera system
  - SMETS as the only manufacturer officially publishes the performances of all its machines with regard to the type and thickness of the pollution or the treatment method and these performances are binding (can be promised and contracted ANYTIME)
  - because of extensive optional equipment, the machines are highly versatile and can be rebuilt for brushes sweeping, vacuuming and treatment of surfaces including magnetic collection with a front bar
  - both powerful engines driving the machine and the ultra high pressure pump and systems of the machine are capable to work during exacting shifts without any interruption and at full power even at temperatures up to 55 degrees Celsius ( ... and the machine work can be stopped within 10 seconds)

## LONG LIFESPAN AND THE LOWEST TOTAL COSTS OF OWNERSHIP (TCO)

- 4) **All ARC and MRT series machines have excellent quality of engineering and processing, long service life and high reliability of all subcomponents and the total ultra high pressure SMETS system**
- ARC 1000 prototype has been operated for over 13 years by Hanoi Airport in extremely demanding conditions of high humidity and air temperature (with a total cost of operation of less than 30 000 EUR, thus incomparable with other ultra high pressure cleaning systems)
  - 4 years of standard warranty is provided for the SMETS superstructure
- 5) SMETS CLEANING TECHNOLOGY guarantees **the lowest after-sales costs** of operation and maintenance from all available ultra high pressure cleaning systems in the world
- annual wear and spare parts costs represent less than 3,5 % of investment of the superstructure

