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municipal

# AeroFocus

Issue 7



## Heathrow strengthens winter resilience

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# Building **Future-Ready** Airport Operations

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Mike Moore

...the ability to respond quickly and effectively has once again highlighted the importance of the right equipment, strong partnerships and well-prepared teams.

Following a winter that tested even the most resilient airport operations, this issue of AeroFocus reflects on the challenges faced across the industry and the continued focus on maintaining safe, reliable and efficient airfields.

Prolonged snow, freezing temperatures, storms and sustained wet weather created difficult conditions across many regions. While disruption is sometimes unavoidable, the ability to respond quickly and effectively has once again highlighted the importance of the right equipment, strong partnerships and well-prepared teams. Across the industry, specialist sweeping and snow removal solutions have played a vital role in supporting continuity during some of the most demanding periods.

In many ways, the stories we share in this issue reflect the priorities that continue to shape airport operations: resilience, long-term thinking, and a clear focus on performance in all conditions.

At the heart of this edition is our feature on Heathrow Airport, where a significant fleet investment marks the beginning of a long-term approach to operational readiness, sustainability and future capability.

Alongside this, we highlight the role of Øveraasen equipment in supporting winter operations, share insights from Swedavia at Stockholm Airport on fleet strategy and service support, plus a feature on the role of training in safe, consistent operations.

We also take a closer look at Assisted Driver technology and how innovation continues to support operators, improve consistency and enhance safety on the ground.

As we look ahead to the months to come, the focus shifts towards increasing operational demand, evolving environmental targets and the continued development of smarter, more connected fleets.

Thank you, as always, for your continued support.

A handwritten signature in black ink, appearing to read 'Mike Moore', written over a light grey background.

Mike Moore  
UK Sales Manager – Airports & Strategic Projects



# SmartAssist: Engineering the Future of Intelligent Sweeping

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Bucher Municipal has long been recognised for engineering innovation and a forward-thinking approach to fleet design. The company consistently focuses on improvement, always asking the question: how should high-performance sweeping evolve in an increasingly data-driven, sustainability-focused world?

Building on the proven durability and performance of the MaxPowa V series, the future integration of SmartAssist reflects more than 10 years of research and development shaped by that long-term vision.

It represents a foundational shift in how sweeping performance is delivered, measured and optimised. SmartAssist brings together artificial intelligence, computer vision and advanced control logic to support operators and redefine how cleaning effectiveness is understood.

At vehicle level, SmartAssist has been developed as an advanced driver assistance system (ADAS) for sweepers. Using AI and real-time image analysis,

the system detects debris ahead of the suction zone, optimises nozzle operation and adjusts fan speed dynamically to achieve the required cleaning target at the lowest practical power.

The vision is intelligent assistance; reducing cognitive load, improving consistency and safety by allowing operators to focus on situational awareness in complex environments. The operator remains fully in control at all times.

Alongside in-cab support, SmartAssist introduces SmartCSI which uses forward and rear-facing cameras to analyse surfaces before and after the sweeper passes,

generating objective cleanliness scores and quantifiable cleaning efficiency data, enabling a shift to data-driven decisions.

The environmental potential is significant. By optimising fan speed and activation time, SmartAssist is projected to reduce fuel consumption by approximately 30,000–60,000 litres over a ten-year vehicle life, equating to around 170–200 tonnes of CO<sub>2</sub> per vehicle.

With four granted patents, public technology demonstrations and active beta trials, SmartAssist reflects Bucher Municipal's commitment to engineering solutions that anticipate future operations.



# Planning for the Unexpected: Heathrow Strengthens Winter Resilience

For airports, winter weather presents one of the most significant operational challenges. At Heathrow, even a short snowfall can have wide-ranging impacts across the entire operation, affecting aircraft movements, passenger journeys and airfield safety.

For Mike McKee, Airfield Operations Manager and his team at Heathrow, preparing for those moments is about long-term planning, investment and ensuring that the right equipment and partnerships are in place to maintain safe operations when conditions become difficult.

“The winter season is probably the most challenging part of the year for us,” explains Mike. “Snow events carry a huge amount of operational risk because they affect everything that happens on the airfield.”

Heathrow’s ambition is clear. The airport’s vision is to be an extraordinary airport fit for the future, while continuing to make every journey better for passengers. Maintaining safe, operational runways during winter conditions is essential to achieving both of those goals.

#### Preparing for rare but critical events

One of the biggest challenges for UK airports is that snowfall is relatively rare. Unlike Scandinavian airports

that deal with snow frequently, Heathrow must ensure its teams are prepared for events that may only occur occasionally.

“When you don’t do something very often, you need to make sure that when it does happen you do it well,” Mike says. “That means having equipment that is reliable, easy to operate and ready to perform when it’s needed.” For Heathrow, the focus is on creating a winter response plan that can manage weather events likely to occur in the UK climate.

As part of that long-term approach, the airport is investing in new airfield support equipment including Øveraasen snow removal vehicles and Bucher Municipal sweepers, strengthening Heathrow’s ability to keep runways and operational areas safe throughout the year.

#### Efficient equipment, stronger operations

A key factor in Heathrow’s selection process was the



“At the end of the day, our job is simple. We want everyone who operates here, or travels through Heathrow, to go home safely. That’s why we do it.”



ability to achieve the required operational performance with fewer machines. The Øveraasen RS600 runway sweepers, for example, offer significantly greater capacity than many alternatives on the market.

“The RS600 sweepers are larger and more capable than other machines we looked at,” Mike explains. “Because of that, we need fewer machines to achieve the same outcome.”

Alongside the winter fleet, Heathrow has also ordered three new Bucher Municipal sweepers to support routine airfield cleaning operations. Keeping the airfield clear of debris throughout the year plays a critical role in maintaining safe runway conditions.

Reducing fleet numbers while increasing capability also brings wider operational benefits, including simplified logistics and reduced training requirements.

Another important factor was the ability to work with a single supplier across multiple maintenance activities. “Using equipment through one supplier helps create a consistent way of working for our operators,” Mike says. “That makes training simpler and reduces operational complexity.”

### Supporting drivers in challenging conditions

Operating snow clearance equipment on an active airfield presents its own challenges. Snow events often bring poor visibility, low temperatures and difficult working conditions.

To support drivers in these situations, Heathrow’s winter fleet incorporates advanced driver assistance technology developed in partnership with Yeti Move.

The system provides operators with real-time guidance on positioning and route alignment, helping them maintain accuracy during snow clearance operations.

“It’s almost like a sat nav for the airfield,” Mike explains. “It can even assist with controlling the plough, brush and blower. That reduces the cognitive load on the driver so they can focus on operating safely.”

This technology also contributes to the overall effectiveness of the airport’s winter plan by helping ensure that snow clearance operations are completed efficiently and consistently.

### Investing in long-term resilience

Heathrow’s decision to renew its winter fleet forms part of a wider commitment to long-term operational resilience. The previous fleet was introduced following severe snowfall events in 2010 that highlighted the importance of investment in winter preparedness. “This equipment will be in service for around 15 years,” Mike says. “So we have to make sure the decisions we make today are fit for the future.”

Sustainability also played a role in the procurement process. While electric alternatives for large snow clearance vehicles are not yet widely available, Heathrow has specified the cleanest engine technology available and will operate the fleet using hydrotreated vegetable oil (HVO) fuel to reduce emissions.

“We’re thinking about how the tools, training and partnerships we’re establishing today will support us in the future as well,” Mike explains.

### Keeping the airfield safe

Alongside the winter fleet investment, Heathrow is also introducing new Bucher Municipal sweepers to support routine airfield cleaning operations.

While snow clearance may attract attention during winter events, maintaining a clean and debris-free airfield throughout the year remains a critical part of airport safety.



**ØVERAASEN**  
SNOWREMOVAL SYSTEMS

# Øveraasen: Performing in Severe Weather for Over a Century

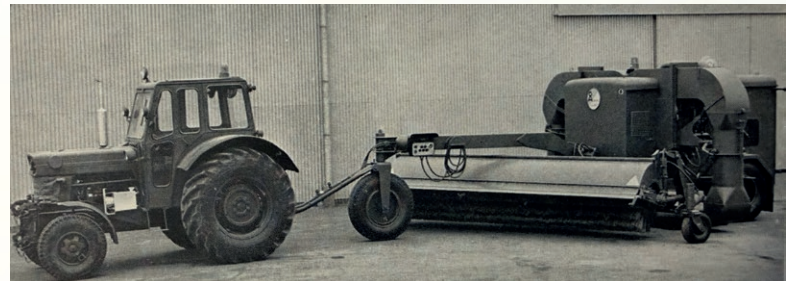
Even in the harshest winter conditions airports simply cannot afford downtime. For more than a century, Øveraasen has been engineering machines designed for exactly those environments.

## From Engines to Specialist Airport Equipment

Founded in Norway in the early 1900s, Øveraasen began by manufacturing engines at a time when electricity was scarce across the country. As Norway industrialised, the company evolved and by 1923, the company had developed its first snowplough, later producing snow blowers and road winter equipment.

By the early 1970s, as aviation grew and operational standards increased, it became clear that adapting road equipment for airport use was no longer sufficient. Airports required purpose-built machinery with higher capacities, greater durability and faster clearing times.

Øveraasen responded by developing its first purpose-built runway sweeper, the Viking Vento BF42, marking the beginning of specialist airport winter equipment.



In 1981, Luton Airport received the first Øveraasen machine delivered to the UK, the SB80, establishing the company's footprint in the UK market. Today, Øveraasen equipment operates in most UK airports, a reflection of long-term performance, reliability and trust built over decades.

Since the 1970s the company has manufactured and delivered more than 2,000 runway sweepers globally.

## Designed for Extreme Conditions

There is a reason Norwegian engineering carries weight in winter operations.





With 39 years dedicated to airport winter operations at Øveraasen, Key Account Manager, Stein Erik Pettersen, has delivered machines to airports from the Arctic to Antarctica. As he explains:

“We develop our machines for Nordic conditions; from very wet snow to very light dry snow, because we experience all of it here.

Operating in one of the world’s most demanding winter climates means equipment must perform in sustained sub-zero temperatures, often down to  $-35^{\circ}\text{C}$ , as well as across widely varying snow types. From heavy coastal snowfall to dry Arctic powder, machines must remain reliable under continuous operational pressure. Our machines based in northern Norway airports can log over 1,500 operating hours in just one winter season.”

Since the 1970s the company has manufactured and delivered more than 2,000 runway sweepers globally.

“This exposure directly shapes design, component strength and operational reliability.”

#### Intelligent Fleet Management at Scale

Modern winter operations demand more. Øveraasen’s Fleet Cloud system provides real-time visibility into fuel levels, brush wear and machine status, allowing winter managers to plan refuelling and maintenance without interrupting critical operations.



Among other airports, Fleet Cloud currently supports Øveraasen’s largest operational deployment at IGA Istanbul Airport, where coordinated operations rely on live data to maintain runway availability.

#### Proven in Extreme Environments

Øveraasen equipment operates wherever it snows, including research bases in Antarctica, to Qamdo Bamda airport (one of the world’s highest airports at 4,334m elevation!) and airports across Europe, Asia and North America.

Machines are engineered for reliability under sustained operational pressure, clearing heavy accumulations at speeds of 30–40 km/h, supported by powerful snow blowers capable of up to 2,100 horsepower to safely relocate snow beyond critical airfield infrastructure.

Their global footprint reinforces Øveraasen’s position as one of Europe’s most established specialist airport winter equipment manufacturers. Today, through its UK partnership with Bucher Municipal, British airports benefit from that same Norwegian engineering heritage, supported locally with dedicated service expertise.



# Purpose-Built for Every Area of the Airfield

The Øveraasen Performance Line portfolio is structured to provide optimum performance under the most challenging conditions.

**COMPACT RUNWAY SWEEPERS:**

**RSC 250 | RS400** - Highly manoeuvrable sweepers designed for runways, taxiways, aprons and stand areas where manoeuvrability and multi-purpose are critical.

**TOWED RUNWAY SWEEPERS:**

**RS 100** - Short, tow behind “Canuck” runway sweeper designed to be used in combination with any type of towing vehicle, such as tractors and light trucks. A perfect machine for smaller airports.

**RS 200** - Easy to manoeuvre and mostly used at airports where the runway is cleared in two passes. Equipped with optional front wheels, it has become very popular among military customers, due to the possibility to drive at speed on public roads.

**RS 400 | RS 600** - High-capacity runway sweepers engineered for primary runway clearance at medium and large international airports.

**SNOW BLOWERS:**

**TV 800 | TV1000+ “Flying Cab” | TV2100** - These powerful machines remove snow accumulations created by fast moving snow clearing teams, blowing snow well beyond runway lighting and critical infrastructure.

Large models such as the RS600 and TV2100 offer substantial clearing speeds, enabling airports to reduce the number of vehicles required while maintaining rapid clearance times. At Oslo Airport, a full runway can be ploughed, brushed, blown, chemically treated and friction-tested in under 12 minutes.

Every minute saved directly protects operational continuity.



# Training that Drives Airfield Performance

Operator and technical training are essential for safe, reliable airfield operations.

Airports are environments where there is no margin for error. Every operation, every movement, and every piece of equipment plays a role in keeping the airfield safe, compliant and operational. Training is a critical part of fleet performance.

Modern airport support equipment is more advanced than ever. From high-performance sweepers to specialist winter equipment, machines are designed to deliver precision, efficiency and reliability. Achieving that performance consistently

depends on the people operating and maintaining them.

That's where structured, ongoing training makes the difference.

With Bucher Municipal, training begins at delivery, but it doesn't end there.

Every new machine is delivered with operator training, ensuring teams understand not just how to use the equipment, but how to get the best from it. Delivered on-site using the customer's own machines,

this training reflects the day-to-day demands of airport operations.

Operators are guided through controls, best practice techniques and safety procedures, but crucially also learn how to identify early signs of wear or issues; helping to prevent downtime before it occurs. Technical training is offered to workshop and maintenance teams equipping them to diagnose issues quickly and carry out effective routine servicing. This reduces reliance on reactive support and keeps equipment available when it's needed most.



## Protecting performance over time

Airports are dynamic environments. Teams change, roles evolve, and operational pressures shift throughout the year. Refresher training and onboarding for new starters are just as important as initial instruction.

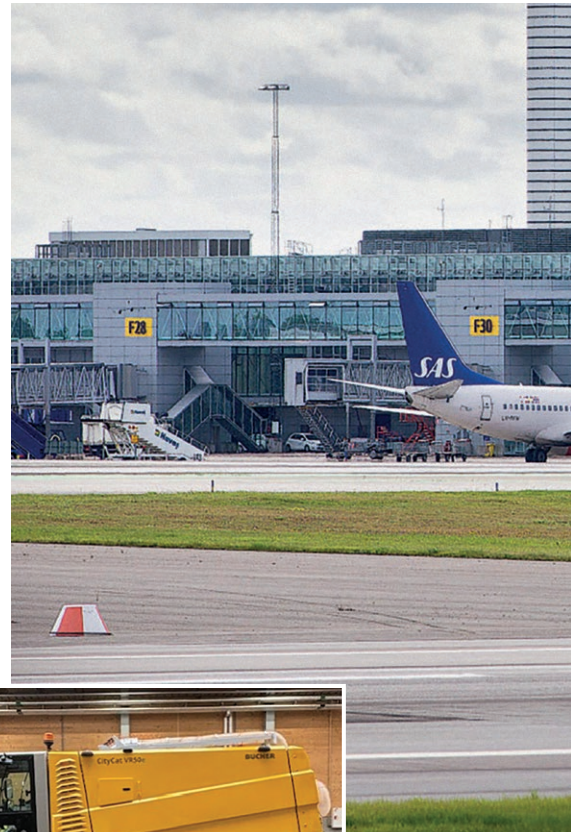
Regular training ensures consistency across teams, maintaining high standards of operation regardless of experience level. It also reinforces safe working practices and keeps operators aligned with the latest techniques and updates.

Delivered by a specialist team, the training combines in-depth product knowledge with a clear understanding of airport operations.

Ultimately, training is an investment in safer operations, reduced downtime and consistent performance, helping airports get the very best from their fleets, every day.



# Two Machines, Two Roles. One Operational Philosophy.



Airports are complex environments. From quiet passenger walkways and car parks to high-risk runways and aircraft stands, every section has a role, and every vehicle operating within it must be fit for purpose.

When Stockholm Airport set out to renew part of its sweeping fleet, it required two very different sweepers, each designed for a specific operational environment and supported by a service model that left nothing to chance. Working with Ströman Maskin AB, the airport introduced the compact fully electric CityCat VR50e for passenger-facing areas, alongside the high-power truck mounted MaxPowa V80rs sweeper for critical runway and aircraft stand operations.

The result is a fleet strategy that balances performance, sustainability, safety and absolute operational reliability.

Different airport zones demand different solutions. The Stockholm Airport aligned machine capability directly with reliability, environment and operational need.

**The CityCat VR50e: quiet, electric cleaning for passenger-facing areas**

The CityCat VR50e is deployed in areas where passengers, staff and the public are present, including parking areas, walkways and landside zones.

For the airport, the rationale was clear. The machine had to support the airport’s long term sustainability goals, through zero tailpipe emissions, deliver low noise levels for minimal disruption to passengers and a better working environment for operators, all while offering a proven run time of 8-10 hours between charges.

Feedback from operators has been overwhelmingly positive, with the machine described simply as “fantastic” not just in performance, but in how comfortably it fits into day-to-day airport operations.

**MaxPowa V80rs: uncompromising performance for runways and aircraft stands**

Runways and aircraft parking areas present a very different challenge.

Here, power is non-negotiable.

The V80rs was selected specifically for its ability to handle heavy debris such as gravel and foreign object debris (FOD), high-risk materials that could cause engine damage during take-off or landing and residues from de-icing fluids.

Its rear suction system ensures a consistently clean surface; a critical factor in maintaining airside safety and protecting aircraft assets.

In this environment, the airport prioritised performance, reliability and proven capability above all else.

**Winning the tender: why service made the difference**

The tender process was highly competitive. While machine capability mattered, the decisive factor was service, because downtime isn’t an option in airport operations.



 **Ströman**



**Swedavia  
Airports**



Ströman Maskin AB secured the contract by offering a support package that met the airport's non-negotiable requirements. This included 24-hour spare parts delivery, immediate technical support via phone and local, Stockholm-based personnel for rapid response.

For the airport, this level of support guarantees continuity of operations and removes uncertainty from daily planning.

#### **Training that supports long-term performance**

Following the delivery of the machines, Ströman provided a two-day training programme tailored to both operators and maintenance teams.

Operator training included a 3-4 hour theory session followed by hands-on driving and operational training. In addition, Ströman trained workshop staff focusing on daily checks, routine maintenance, minor repairs and replacement of consumable components.

Each machine is also equipped with on-board pictorial manuals, acting as an aide memoire that allows operators to quickly and easily check controls and procedures.

The result is confidence on day one and fewer issues long after handover.

#### **From customer to advocate**

The airport's satisfaction with both machines and service has gone beyond routine supplier relationships.

Today, the airport regularly meets with Ströman to discuss future electrification projects and also provides live demonstrations for other operators considering the move to electric compact sweepers. This advocacy has proven invaluable and has directly led to the sale of an electric machine following a customer demonstration.

For Ströman, it's proof that strong partnerships generate their own momentum.

#### **Looking ahead to a fully electric future**

Perhaps most significant is what comes next. The airport has made a clear commitment; from next year, only electric vehicles will be purchased.

This decision creates a defined pipeline for future investment and positions Ströman as a long-term partner in the airport's transition to cleaner, quieter operations.

It also reinforces a wider industry message, electrification is shaping procurement decisions today.

This project demonstrates a growing reality across airport operations, that sustainability must work without compromising safety and performance.

Two sweepers. Two roles. One shared objective, keeping the airport moving safely.

## Bucher Municipal



For local contact and support, please scan the QR code or visit

[buchermunicipal.com](http://buchermunicipal.com)

At Bucher Municipal, we innovate and engineer better cleaning and clearing solutions, helping our customers grow and maintain efficient and profitable businesses. Leveraging the over 200-year-old heritage of Bucher, we are committed to helping you achieve more using less. Taking pride in being seen as a reliable partner, we work locally with you in realising the possibilities for a smarter, cleaner and more efficient tomorrow. Today.



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